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Books of Refiners Show Operating Losses on Present Markets

By J. C. Chatfield

N. P. N. STAFF WRITER

TULSA, MAY 11

WITH the impetus given Mid-Continent gasoline markets by the new large purchases of the Standard Oil Co. of New Jersey, and inquiries and purchases of high gravity gasoline by two Independent exporters, refiners are looking forward to the time when they will be able to dispense with the use of red ink on their ledgers. During the past two months the comptrollers have found it necessary to dip their pens in scarlet a good many times to strike a balance on their books.

But orders have been coming to the hands of refiners in greater volume during the past few weeks so that the manufacturing branch of the industry appears to be in a position now where it can look for better times. For the past 35 days refiners have been pulling on their stocks of gasoline in the Mid-Continent, a condition which has not been found at this season for the past three years.

Stock Reductions

This situation is revealed by the reports of 118 refiners made to this publication from week to week. On March 27, these 118 plants with a still capacity of 434,300 barrels per day held in stock 85,060,895 gallons of gasoline. The report for the week ending May 1 shows stocks to have been reduced to 78,058,694 gallons, a reduction of 7,003,201 gallons or 8.2 per cent. The reduction has been made gradually from week to week.

Of the 148,700,000 gallons of gasoline shipped by this large group of refiners during the five weeks, approximately 10 per cent has probably been sold on the special orders placed by the Standard. During the past week the same company has placed orders for around four million gallons of gasoline to be shipped during May. This background of assured outlet for the next 30 days is giving refiners confidence in raising their prices to a level more nearly commensurate with costs.

Recently there has been some discussion as to just how cheaply gasoline can be produced by a refiner who has equipped his plant with a cracking process. One assertion has been made that gasoline can be made at 10½ cents per gallon profitably on present crude costs. In this area refiners deny that they are able to produce gasoline at such a price without taking a substantial loss.

Margin Comparisons

It is an interesting sidelight that if the Mid-Continent refiner were able to produce 100 per cent gasoline out of his crude he would have a smaller margin on which to operate than do most of the jobbers on the basis of 10½-cent U. S. Motor gasoline. High gravity crude oil at the well costs the refiner 5.36 cents per gallon before any charges are made for gathering or transporting the oil to the refinery, or any allowance is made for the necessary premium.

If the refiner could recover 42 gallons out of his barrel of crude he would have an average 4.31 cents per gallon on which to operate, allowing 15 cents per barrel for premium and 20 cents per barrel for pipeline and gathering charges over the cost of high gravity crude. Although the investment of the average jobber is only a minor fraction of the investment of the manufacturer, the jobber feels that he must have a margin of 4.5 cents per gallon in order to handle gasoline from tank car to service station and make a reasonable profit.

During the past week I picked out one important Independent refiner in the Mid-Continent field who operates on high gravity premium crude and has a modern cracking plant. I asked this refiner to let me see his books so that I might find out how much it was costing him today to make gasoline. At that time the treasurer of the company had just closed his books for March and permitted me to look over his statement.

Cost Statement

The refiner in question charged 113,975 barrels of crude to his stills during March, an average of 3,676 barrels per day. It will be seen by this figure that the run was large enough to give a reasonable figure for overhead expenses.

Following is the cost and yield statement taken from the books of this refiner:

Cost of crude, delivered, per bbl.	$2.552
Refinery operating costs, including cracking, per bbl.	.229
Selling, general, taxes, per bbl.	.064
	$2.845
Tank cars (credit)	.019
Total cost per bbl. before depreciation or return on investment.	$2.826
Gasoline 17.989 gal. per bbl at 10.919 cents	$1.964
Kerosene 4.607 gal. per bbl. at 4.342 cents	.200
Fuel oil 18.513 gal. per bbl at 3.003 cents	.556
Total income per bbl.	$2.720
Loss before depreciation or return on investment, per bbl.	.106
Depreciation per bbl. of crude charged	.063
Loss after depreciation but before return on investment per bbl.	$ .1669

It will be observed that the refiner in question received $1.26 per barrel for his fuel oil during the month which is far above the present price on the spot market. Selling his fuel oil today the refiner would receive but 90 cents per barrel or 2.152 cents per gallon. This would reduce his net 0.861 cents per barrel. On the other hand, his gasoline price on today's market would be increased slightly.

Net on Current Market

On the basis of today's markets the refiner's yield statement would be about as follows:

(Continued on top of next page)

(Continued from preceding page)

Gasoline 17.989 gal. per bbl. at 11 cents	$1.9788
Kerosene 4.607 gal. per bbl. at 4¼ cents	.1958
Fuel oil 18.513 gal. per bbl. at 2.143 cents	.3967
Total income per bbl.	$2.5713
Loss before depreciation, per bbl.	.255

Having obtained these figures I went to another refiner who operates on an even larger scale but who utilizes an average grade of crude which costs him less per barrel. This refiner does not find it necessary at this time to pay a premium for the raw material which he is using.

As in the case of the above mentioned plant the refinery is equipped with a cracking process adequate to rerun the heavy oils. Books of this refiner showed him to be running 5000 barrels per day of crude and 1600 barrels per day of cracking stock. The crude costs $1.80 per barrel at the well and the cracking stock is charged at a market value of 2.75 cents per gallon or $1.15 per barrel.

Low Rate Stock Cost

Crude oil at the plant and cracking stock is charged to the system at $1.86 per barrel, which is considerably below the raw material cost of the refiner running high gravity premium crude as shown above.

Following are the costs shown by the books of this refiner:

Cost of raw stocks at plant per bbl.	$1.86
Manufacturing and maintenance, per bbl.	.23
Traffic and transportation, per bbl.	.05
General administration and sales, per bbl.	.07
Depreciation, taxes and insurance, per bbl.	.08
Total before return on investment	$2.29

Yield and Income

14.70 gal. U. S. Motor gasoline at 10.5 cents	$1.547
2.94 gal. 41-43 kerosene at 4.125 cents	.113
8.40 gal. 32-36 gas oil at 2.75 cents	.231
13.02 gal. 20-24 fuel oil at 90 cents per barrel.	.279
Total income per bbl.	$2.17
Loss before return on investment	.12

The loss of this refiner on 10½-cent gasoline is thus seen to be $792 per day. On the basis of 11-cent gasoline which the market has just reached today with kerosene at 4¼ cents, gas oil at 2⅞ cents per gallon and fuel oil at 90 cents per barrel this refiner would be losing 3.8 cents per barrel on his throughput. His loss would thus be $250.80 per day.

Coming Meetings

Ohio Petroleum Marketers Assoc., Gibson Hotel, Cincinnati, O., May 14, 15.

Natural Gas Assoc. and Natural Gas Supply Men, Atlantic City, N. J., May 18, 19, 20, 21.

Wisconsin Independent Oil Jobbers' Assoc., Oshkosh, Wis., May 20.

Missouri Oil Men's Assoc., Hotel Elms, Excelsior Springs, Mo., May 21, 22.

National Association of Purchasing Agents, Milwaukee Auditorium, Milwaukee, Wis., May 25 to 28.

New York State Petroleum Marketers Assoc., Syracuse, N. Y., May 26.

Michigan Independent Oil Men's Assoc., Edgewater Club, St. Joseph, Mich., June 25.

Milan R. Bump

Doherty Executive Dies Suddenly in Denver

NEW YORK, May 9.—Milan R. Bump, chief engineer of Henry L. Doherty & Co. and officer and director of nearly 100 companies owned or controlled by the Cities Service Co, died May 5 in Denver. Death came suddenly as the result of a heart attack. He was in Denver on a business trip.

Mr. Bump was widely known in the oil and gas industry and had contributed importantly to the evolving of better methods of operating. His opinion was sought by men in the industry, as was shown by his appearance on the programs of a number of associations.

Mr. Bump was born in Rock Falls, Wis., March 18, 1881. His youth was spent in Spokane, Wash., but he returned to Wisconsin for his higher education. He was graduated from the state university in 1902 as an electrical engineer. He became a cadet engineer in the Denver Gas & Electric Co., a Doherty company, in 1904 and with the exception of a brief period in 1915 when he was vice-president of the Eagle-Picher Lead Co., he was a member of the Doherty organization from 1904 to his death.

While a major part of his association with the Doherty companies was devoted to public utilities, he was, for the past several years, the executive head of the oil and gas operations of the Cities Service companies.

Mr. Bump is survived by his widow, who was Miss Mary Morrison, and by three children. His home was in Montclair, N. J.

Funeral services were held Friday in Denver.

Invitation List Wide to Ethyl Conference

By Special Correspondent

WASHINGTON, May 11.—The conference on tretra ethyl lead, to be held by the Public Health Service on May 20, Calling of which caused the Ethyl Gasoline Corp. to stop the sale of the anti-knock fluid until further orders, judging from the best information obtainable, is an honest move on the part of Surgeon General Cumming to find out whether there is a question of public health involved in the use of the anti-knock compound.

As soon as the conference was announced there was a suspicion that it might have been inspired by inventors and vendors of compounds supposed to eliminate knock or give gasoline a harder or more effective kick. Dr. Cumming and his associates are high class professional men but even such have been misled into having the government take a hand in trade fights.

Dr. L. R. Thompson, the man in immediate charge of the matter said that the conference was to do no more than to consider whether there was a question of public health involved.

The list of those invited to the conference other than the health officers of the large cities, who have been invited by name of office rather than in person, is as follows:

American Automobile Association; American Federation of Labor; Chemical Warfare Section of the United States Army, Gen. Amos Fries, chief; Dr. Cecil Drinker, Harvard School of Health; Dr. David Edsall, dean Harvard School of Health; Dr. Haven Emerson, Columbia University School of Health; Ethyl Gasoline Corporation; Dr. Frederick Flinn, Columbia University; General Motors Co.; Dr. Alice Hamilton, Harvard School of Public Health; Dr. Emory Hayhurst, Ohio State University; Dr. Yandell Henderson, Yale University; Dr. Howell, Johns Hopkins School of Public Health; Prof. Reid Hunt, Harvard University; Dr. Robert Kehoe, University of Cincinnati; Prof. Lowenheart, University of Wisconsin; Dr. Marshall, Johns Hopkins School of Public Health; Bureau of Mines; National Research Council; National Safety Council; Dr. William Park, City Health Department, New York; Dr. W. A. Pusey, President American Medical Association; Standard of New Jersey; State and Provincial Health Officers;

Dr. Gilman Thompson; Prof. C. E. A. Yale School of Public Health.

Since the announcement of the Ethyl Gasoline Corp. that it would suspend shipments of tetra ethyl lead, the Standard of Indiana, the Standard of Kentucky and the Gulf Refining Co. and the Standard of New Jersey have stopped selling Ethyl gasoline at retail. The Refiners Oil Co., Dayton, O., which has the selling rights in Ohio states it will stop sales of Ethyl gasoline about June 1 when its stocks run out.

Crude Price Changes.

May 7.—Louisiana Oil Refining Corp., which along with Atlantic Oil Producing Co. and Shreveport-Eldorado Pipe Line Co. has been paying a premium of from 5 to 15 cents on Smackover crude, reduced Smackover 28 and above 10 cents to $1.35 on May 5. This price is 5 cents above Standard's present price. The Louisiana company also established a new grade, 23 to 23.9, at 60 cents, in order to afford relief to producers of low gravity light oil in the Louann district, who have been receiving the 40 cent price applicable to Smackover heavy. Oil below 23 remained at 40 cents. Other grades were unchanged.

May 8.—Standard Oil Co. of Louisiana advanced Smackover heavy crude, below 24 degrees, 20 cents to 60 cents per barrel. All major purchasers met the advance on the same day.

Marketing

Oklahoma-Kansas.—Gasoline stronger and prices higher. Natural gasoline booming. Kerosene improving, prices slightly higher. Fuel oil firmer, following advance in price of heavy Smackover crude. Cylinder stocks dragging. Neutrals steady. Wax strong.

North Texas.—Gasoline turns upward. U S. Motor advancing to 11 cents. Natural gasoline strong. Kerosene slow. Gas oil quiet. Fuel weakens.

Chicago.—Gasoline stronger, price of U. S. Motor advances to 11 cents. Light gasoline firm. Kerosene unchanged. Gas oil easy. Fuel oil improved.

Pennsylvania.—Cylinder stocks more active, prices firm to strong. Neutrals soft. Gasoline firmer but lags behind Group 3 in price differential. Kerosene steady. Heavy fuel firm. Wax strong.

Gulf Coastal.—Unchanged.

California.—Gasoline firmed by shipments to Atlantic ports.

New York Export.—Inquiries for gasoline more numerous but buying is light. Kerosene ¼ cent cheaper. Pennsylvania cylinder stocks demand improving, price is up 1 cent. Bunker oil quiet and price unchanged at $1.75. Gas oil flat. Waxes firmer, early last week but eased off as foreign buyers withdrew.

New Orleans Export.—Gasoline and kerosene more active. Gasoline prices higher but kerosene weakens. Zero oils also cheaper. Bunker oil price cut. Gas oil steady. Waxes holding up.

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Gasoline Situation is Improving Although Stocks Are Higher

Staff Special

CLEVELAND, May 9

ALTHOUGH more gasoline was produced in March than in any one month before in the history of the industry and stocks rose 123,725,000 gallons the statistical position of the gasoline situation is far better than a year ago.

Bureau of Mines figures on refinery operations in March show a total output of 853,574,214 gallons, a daily average of 27,534,652. Imports totaled 14,542,865 gallons, a daily average of 469,125 gallons, making the new supply 28,003,777 gallons daily average. Domestic consumption totaled 620,635,551 gallons, a daily average of 20,020,502 gallons. Record exports of 123,755,783 gallons averaged 3,992,122 gallons daily, making total indicated consumption 24,012,624 gallons.

Stocks of gasoline stood at 1,610,868,168 gallons on April 1, compared with 1,487,142,423 gallons March 1, but at the rate of consumption in March, stocks equaled only 80 days' supply. Stocks on April 1, 1924, were 1,587,584,872 gallons or 105 days' supply at the rate of consumption at that time. Domestic consumption in March was 33 per cent greater than in March, 1924.

Production of kerosene in March was 219,908,447, a daily average of approximately 7,100,000 gallons. Exports were 82,000,000 gallons, a good increase over February exports. Domestic consumption was less than in February. Stocks on April 1 were 440,870,013 gallons, the highest figure since early in 1921.

Production of gas and fuel oils was 1,204,000,000 gallons, a daily average of 38,835,665 gallons. These figures are record figures, representing an increase over the previous record figures of December, 1924 of 0.4 per cent. Domestic demand was 1,118,000,000 gallons, a daily average of 36,070,000 gallons. Stocks on hand showed comparatively little change during the month, standing April 15 at 1,648,000,000 gallons.

March production of lubricants was 118,000,000 gallons, the highest monthly production ever recorded, and a slight increase in daily average production over the record figures of the previous month. Exports were 37,700,000 gallons, a material increase over the previous month. Stocks continued to increase, the total at the end of the month, 290,000,000 gallons, being the highest figure ever recorded.

The production of wax was 53,600,000 pounds, a daily average of 1.730,000 pounds, this being an increase over the previous month of 1.4 per cent. Exports were 29,000,000 pounds. Domestic demand fell off 4,000,000 pounds and stocks were increased 6,000,000 pounds, standing April 1 at 95,000,000 pounds.

Stocks of gasoline were added to in every territory except the Rocky Mountain and California. Kerosene stocks declined only on the Atlantic seaboard. Fuel and gas oil stocks also declined on the Atlantic seaboard and in California. Lubricating oil stocks declined in the Pennsylvania-Ohio, Oklahoma-Kansas, Indiana-Illinois, and Rocky Mountain districts.

Every district in the United States increased its output of gasoline in March over February. All but Texas its kerosene output and all but Rocky Mountain its gas and fuel oil, and lubricating oil production.

D. W. Moffitt to Address Missouri Jobbers

KANSAS CITY, May 11.—The annual meeting of the Missouri Oil Men's Association is to be held at the Elms hotel, Excelsior Springs, Mo., on May 21 and 22, according to an announcement made today by George S. Allee, secretary.

Plans are being made for the presentation of a more elaborate program than usual at the meeting. D. W. Moffitt, vice president of the Mid-Continent Petroleum Corp. (Cosden), will be one of the speakers.

Asa W. Butler, state oil inspector for Missouri, will discuss the best methods of handling reports under the new gasoline tax law in that state. He will explain also the new inspection law.

Robert W. Otto, state attorney general, will give an address on the anti-discrimination laws of Missouri.

Officers for the new year are to be elected and a number of other features added to the program.

Stocks at Refineries at End of March as Reported by Bureau of Mines

	Crude and Unfinished Oils (Bbls.)			Principal Refined Products (Gallons)			
	Crude Unfinished Domestic and Foreign	Oils	Total Oils to be run	Gasoline	Kerosene	Gas and Fuel	Lubricants
East Coast	* 10,745,512	6,178,448	* 16,923,960	*330,443,423	87,705,786	193,704,378	* 98,906,766
Pennsylvania	1,189,336 *	809,398	1,998,734	* 47,244,034	* 14,197,088	* 25,654,772	31,301,332
Indiana and Ill	1,478,916 *	2,890,129	4,369,045	*232,444,134	* 50,939,756	* 32,436,064	30,154,588
Oklahoma and Kansas	4,939,267 *	1,647,539	6,586,806	*193,124,241	* 34,094,405	*113,916,889	16,196,395
Texas	6,026,470 *	6,669,563	12,696,039	*214,065,250	*127,392,975	*285,272,345	* 75,460,360
Louisiana and Ark	* 7,155,148 *	2,103,666	* 9,258,814	*111,463,561	* 53,970,233	*129,859,460	* 7,946,350
Rocky Mountain	1,077,842	1,405,811	* 2,483,653	144,831,058	* 15,353,199	20,913,381	6,651,008
California	11,029,490	8,724,649	* 19,754,139	337,252,467	* 57,216,571	*845,766,038	* 23,438,610
U. S. TOTAL	43,641,987	30,429,203	* 74,071,190	*1,610,868,168	*440,870,013	*1,647,523,327	*290,055,409
U. S. TOTAL 2-28-25	43,670,175	29,409,488	73,079,663	1,487,142,423	419,581,895	1,639,105,022	275,258,365
Texas Gulf Coast	4,893,020	6,021,946	10,914,966	* 190,696,702	*113,248,161	*227,439,551	* 74,192,535
La. Gulf Coast	5,741,737	1,928,369	* 8,670,106	* 105,485,082	* 53,147,972	*107,064,261	* 7,035,118

*Increase.

Operations for March of Refineries Reporting to Bureau of Mines

					Output Principal Products in Gallons			
Division	No. Plants Reporting	Capacity (Bbl.)	Daily Av. Crude Runs (Bbl.)	% Runs Capacity March	Gasoline (Gal.)	Kerosene (Gal.)	Gas and Fuel Oils (Gal.)	Lubricants (Gal.)
East Coast	18	459,000	*362,543	79.0	*138,917,949	*52,766,148	*235,358,674	* 37,806,620
Pennsylvania	*50	83,660	*69,028	82.5	* 35,481,129	* 11,898,604	* 20,367,588	* 17,739,546
Indiana and Ill	*25	206,800	176,254	85.2	*114,670,512	* 21,277,621	* 63,232,787	* 10,352,278
Oklahoma and Kansas	*65	351,400	250,602	71.3	*157,691,918	* 31,171,919	*124,371,259	* 8,945,670
Texas	59	439,830	384,609	87.4	*185,127,095	49,362,772	*219,394,450	* 28,338,702
La. and Ark	19	157,740	*168,940	107.1	* 50,252,724	* 21,492,271	*109,019,957	* 3,427,061
Rocky Mountain	*16	94,917	54,843	57.8	* 43,504,090	* 8,309,121	31,676,676	1,877,216
California	42	600,220	*449,541	74.9	*127,928,797	* 23,629,991	*400,484,228	* 10,006,845
UNITED STATES	294	2,393,567	1,916,360	80.1	853,574,214	219,908,447	1,203,905,619	118,493,938
Texas Gulf Coast	*15	301,500	283,121	93.9	*136,190,046	40,914,605	*154,021,204	* 26,518,467
La. Gulf Coast	5	116,100	*127,116	109.5	* 40,621,207	* 18,863,451	* 71,312,464	* 3,133,229

*Increase.

National Petroleum News

Compilation Of Mid-Continent Refinery Operations

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118 Mid-Continent Refiners Continue to Reduce Gasoline Stocks

TULSA, May 11

ACCORDING to their reports to National Petroleum News, 118 Mid-Continent refiners reduced their daily average charges to stills 2812 barrels to 301,209 barrels in the week ended May 8. Daily average throughput decreased 2282 barrels in Oklahoma and 2452 barrels in north Louisiana-Arkansas, but these totals were part offset by slight increases in Kansas and Texas. Total daily average runs to stills in the last two weeks have been reduced 13,034 barrels.

Gasoline stocks in the whole area declined 2,774,745 gallons to 75,078,793 gallons and have gradually decreased during the past seven weeks at these plants. They are now 10,000,000 gallons below stocks on April 27. Gasoline shipments for the week were 31,224,141 gallons compared with 29,018,882 gallons last week. Stocks decreased in all states except north Louisiana and Arkansas, where they increased 330,900 gallons to 4,496,734 gallons.

Gasoline output was 28,449,396 gallons, an increase of 936,344 gallons over the preceding week. Kansas refiners shipped 9,135,722 gallons compared with 8,244,635 gallons last week. Shipments from Oklahoma plants were 12,195,605 gallons against 11,129,662 gallons the preceding week and movement from Texas plants was 8,009,536 gallons compared with 7,425,383 gallons last week. Shipments from plants in north Louisiana and Arkansas were 1,833,278 gallons or 335,924 gallons below the week previous.

Kerosene shipments were 5,687,419 gallons against production of 6,390,866 gallons, and stocks increased 703,447 gallons to 20,103,593 gallons, which more than offset the decline of last week. Output was below that of the preceding week in all reporting states, but shipments declined 22.2 per cent in the whole area, and were 5,687,419 gallons, or 1,620,545 gallons below those of the preceding week. Total stocks in week ending March 6 were 20,213,772 gallons.

Stocks of gas and fuel oil remained practically stationary. A feature of the report was the shipments from Kansas plants, which were 10,100,588 gallons compared with 3,887,242 gallons last week. Stocks at Kansas refineries declined 1,777,846 gallons. Total shipments exclusive of the Kansas area were 29,609,178 gallons compared with 28,150,768 gallons last week. Stocks at Oklahoma plants increased 889,887 gallons to 51,763,201 gallons. North Louisiana and Kansas refiners increased stocks 346,148 gallons to 17,792,102 gallons.

At the rate of shipments maintained during the past week stocks of gasoline at the 118 reporting plants represented 17 day's supply, kerosene stocks represented 25 days' supply and gas and fuel oil stocks represented 23 days' supply.

The table covering shipments and production for four weeks ended May 8, shows that during the 28 days gasoline shipments exceeded production and stocks declined 6,676,567 gallons. Kerosene shipments also exceeded production and stocks declined 134,935 gallons.

Summary of Months Production

Production and shipments, all reporting refineries for four weeks ended May 8. Change in stocks figured from April 10.

Gasoline	**Gallons**
Production	114,767,936
Shipments	121,444,503
Net change in stocks	—6,676,567
Ratio sales to production	105.8%
Kerosene	**Gallons**
Production	26,178,962
Shipments	26,313,897
Net change in stocks	—134,935
Ratio sales to production	100.5%
Gas and Fuel Oils	**Gallons**
Production	159,062,675
Shipments	143,335,413
Net change in stocks	+15,727,262
Ratio sales to production	90.1%

Mid-Continent Refinery Operations Week Ended May 8 (*By Special Telegraph Service*)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Total	%Change Previous Week	Totals Week Ended Apr. 10
No of Plants	21		45		38		14		118		118
Da. Still Cap. (bbl.)	95,700		154,400		132,800		50,900		433,800		434,300
Da. Av. Crude Run	60,818		85,342		71,655		36,398		254,213		243,488
Da. Av. Other Oils	14,816		16,217		11,690		4,093		46,816		46,883
Da. Av. Total to Stills	75,634	+ 1.7	101,559	— 2.2	83,345	+ 0.8	40,491	— 5.7	301,029	— 0.9	290,371
GASOLINE—Gallons											
Stocks May 1	20,619,724		37,889,729		15,168,251		4,165,834		77,853,538		83,441,598
Prod. 5-1 to 5-8	8,000,924	+ 1.2	10,737,357	+ 4.2	7,496,967	+ 6.3	2,214,178	— 1.6	28,449,396	+ 3.4	27,815,584
Ship. 5-1 to 5-8	9,135,722	+10.8	12,195,605	+ 9.6	8,009,536	+ 7.9	1,883,278	—15.1	31,224,141	+ 7.6	28,868,708
Stocks May 8	19,484,896	— 5.5	36,441,481	— 3.8	14,655,682	— 3.4	4,496,734	+ 7.9	75,078,793	— 3.6	82,288,474
Ratio Sales to Prod.	114.18%		113.58%		106.84%		85.06%		109.75%		103.8%
KEROSENE—Gallons											
Stocks May 1	5,004,128		8,962,370		4,878,258		555,390		19,400,146		20,638,459
Prod. 5-1 to 5-8	1,794,115	+ 5.2	2,532,852	+ 6.2	1,675,788	—25.3	406,111	— 1.1	6,390,866	— 4.9	6,771,125
Ship. 5-1 to 5-8	1,374,063	—18.5	2,291,000	—15.0	1,618,713	—35.3	403,643	— 4.9	5,687,419	—22.2	7,155,244
Stocks May 8	5,424,180	+ 8.4	9,204,222	+ 2.7	4,917,333	+ 0 8	557,858	+ 0.4	20,103,593	+ 3.6	20,252,340
Ratio Sales to Prod.	76.59%		90.45%		97.64%		99.39%		88.99%		105.7%
GAS AND FUEL OILS—Gallons											
Stocks May 1	18,074,974		50,873,314		47,295,716		17,445,954		133,689,958		118,203,948
Prod. 5-1 to 5-8	8,322,742	+ 6.1	10,583,921	— 7.6	11,513,236	+ 1.9	8,898,302	— 1.1	39,318,201	— 0.7	36,095,843
Ship. 5-1 to 5-8	10,100,588	+159.8	9,694,034	— 5.4	11,362,990	+ 9.9	8,552,154	— 0.2	39,709,766	+23.9	35,583,677
Stocks May 8	16,297,128	— 9.8	51,763,201	+ 1.7	47,445,962	+ 0.3	17,792,102	+ 2.0	133,298,393	— 0.3	118,716,114
Ratio Sales to Prod.	121.36%		91.59%		98.70%		96.11%		101.00%		98.6%

General Conference on Standardization to be Held June 15 in Dallas

DALLAS, May 7.—A general conference of all standardization committees of the American Petroleum Institute will be held in Dallas on June 15, 16 and 17. There are at present 10 active committees dealing with various standardization projects as follows:

Special Committee on Standardization of Specifications for Steel and Iron Pipe for Oil Country Tubular Goods, J. Edgar Pew, vice-president, Sun Oil Co., Dallas, national chairman.

Note: Master gages for A. P. I. casing are now being manufactured. It is expected that delivery of the first set for a large manufacturer of pipe will be made in early June. Other manufacturers have indicated their intention of ordering gages and completing their equipment to manufacture A. P. I. pipe as quickly as the demand justifies. Anyone desiring to order A. P. I. casing can secure further information on this matter from the Dallas office of the Division of Standardization, 1103 Sante Fe building.

Special Committee on Standardization of Rig Irons, H. J. Lockhart, assistant to president, Parkersburg Rig & Reel Co., Parkersburg, W. Va., national chairman.

Special Committee on Standardization of Wire Rope and Manila Cordage, C. C. Scharpenberg, assistant manager, Standard Oil Co. of California, Bakersfield, Cal., national chairman.

Special Committee on Standardization of Standard Rigs and Derricks, W. W. Fondren, vice-president, Humble Oil & Refining Co., Houston, national chairman.

Special Committee on Standardization of Pumping Equipment and Engines, as Applied to the Production of Oil, A. V. Hoenig, vice-president, Carter Oil Co., of Parkersburg, W. Va., national chairman.

Special Committee on Standardization of Rotary Drilling Equipment, Capt. J. F. Lucey, president Lucey Petroleum Co., 1405 Magnolia bldg., Dallas, national chairman.

Special Committee on Standardization of Belting, A. H. Riney, chief engineer, Phillips Petroleum Co., Bartlesville, national chairman.

Special Committee on Standardization of Oil Field Boilers, A. B. Steen, chief engineer, The Texas Co., Houston, national chairman.

Special Committee on Standardization of Steel Storage and Production Tanks as Applied to the Production of Oil, G. M. Vandaveer, superintendent pipe line department, The Midwest Refining Co., Casper, Wyo., national chairman.

Special Committee on Standardization of Cable Drilling Tool Joints, Thomas Fleming, Jr., vice-president, Oil Well Supply Co., Pittsburgh, national chairman.

There are over 300 executives, engineers and manufacturers actively serving on the above committees. Each geographical oil district is represented on each committee, as well as the principal manufacturers. Numerous meetings have been held by the various district committees since the last national A. P. I. meeting at Fort Worth in December, says President J. Edgar Pew of the Institute, who is chairman of the general committee on standardization.

It is the intention of this June conference to head up all the work that has been accomplished since last December. A complete program covering this conference is now being prepared and will be issued in the near future.

A complete standardization bulletin will be issued by the American Petroleum Institute giving the results of this June meeting. All those interested in standardization of oil field equipment are invited to attend.

Bill Long Sells His End of Robinson Co.

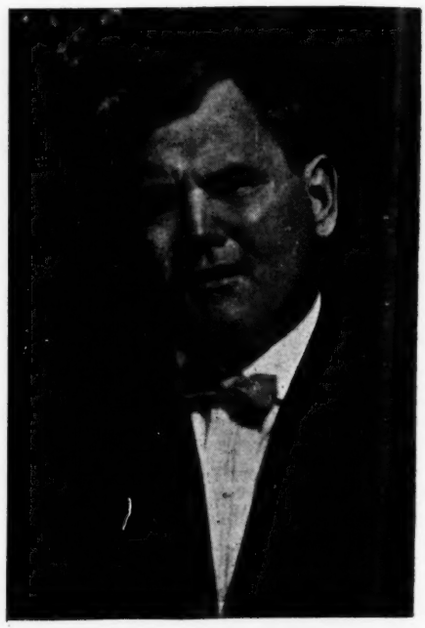
TULSA, May 11.—The supply end of the oil industry has lost one of its best known and most interesting characters, for a time at least. W. G. Long, whose public name is "Bill" has sold his interest in the Robinson Packer Co. and has started out to enjoy a long rest. This is something that he has planned for quite a while to do, but only recently did the doctor become positive about it. Bill's health hasn't been good for something like a year.

He says the oil business has not seen the last of him by any means and that after loafing around and looking at various out parts of the country he has always wanted to visit, he plans to come back just like Napoleon did from wherever it was he returned from.

Bill started out in life at Parkers' Landing, Pa. He went to college for a time but some slight difference of opinion arose between him and the president of the school and Bill withdrew his support. He became in rapid succession roustabout, toolie and driller. He got credit for a lot of footage in Pennsylvania and West Virginia and went to the southwest by way of Illinois, drilling as he went.

Some of his lease ventures at Electra turned out well and he then invaded Oklahoma. Another phase of his career opened up in Texas. He started to write. National Petroleum News was honored with quite a bit of his output and he has more recently published a sizeable book of verse, mostly about the oil fields.

After producing some oil in the Mid-Continent, Bill came into the Robinson Packer Co. and devoted full time for several years to the building up of that company. His has a large stock interest in the company, of which he was the treasurer, and under his supervision the office building and store in Tulsa was built.



W. G. Long

Huston Made Chairman of Transcontinental

PITTSBURGH, May 11.—C. H. Huston, former assistant secretary of commerce, was elected chairman of the board of directors of the Transcontinental Oil Co. on May 2, following the annual stockholder's meeting. He succeeds M. L. Benedum, who has been chairman of the board since the organization of the company. Mr. Benedum requested that he be relieved of the responsibility the position carries that he might devote more time to other of his various interests, and he nominated Mr. Huston as his successor.

Mr. Huston is a man of wide business experience. He was asked in 1921 by Herbert Hoover to assist him in the reorganization of the Department of Commerce and served more than a year in that department. He then resigned to form an association with the Benedum-Trees interests and for the past two years has been active in the affairs of the Transcontinental Oil Co.

In the first quarter of 1925, Transcontinental reports income of $838,669 after interest and expenses as against a deficit of $126,664 in first quarter of 1924. Income accounts for the two quarters compare:

	1925	1924
Gross income	$4,127,051	$2,899,499
Operating expenses	2,949,080	2,532,173
Operating profit	$1,177,971	$367,326
Exp. and interest	339,302	493,990
Gross profit	$838,669	*$126,664
Deprec. and depletion	250,000	.....
Net profit	$588,669	.....

*Deficit.

Stockholders in Texon Oil & Land Co. Question Latest Stock Issue

By Paul Wagner
N. P. N. STAFF WRITER

EL PASO, May 9

CONDITIONS affecting the corporate affairs of the Texon Oil & Land Co. of Delaware, the Group No. 1 Oil Corp., and the Group No. 2 Oil Corp., were disclosed in El Paso this week as result of court proceedings that postponed the annual meeting of the Texon Company, which was originally called for May 5.

These disclosures centered around an issue of stock in the Texon of Delaware to Carl G. Cromwell totalling 2,400,000 shares, part of which are alleged to have figured in stock sales made through a New York broker last fall and the remainder of which were more recently issued.

Through the issue of about 1,000 000 shares previously and another 1,400,000 shares to Cromwell recently, the present outstanding stock of the Texon Oil & Land Co. of Delaware, is now nearly 4,400,000 shares of $1 par. Prior to the contract with Cromwell, details of which are now disclosed for the first time, there had been approximately 1,912,000 shares outstanding.

The Krupp & Pickrell interests of El Paso, who constitute the management of Texon and its affiliated companies, drilled the discovery well of the Big Lake field, in Reagan county, which is now under development by the Big Lake Oil Co., of Pittsburgh, and the Texon-Group 1 Oil Corp. partnership. It is around inter-corporate affairs of the Texon and its affiliated group companies that questions have recently resulted in the filing of federal court receivership proceedings both at Dallas and in Delaware.

The restraining order under which the annual meeting of Texon stockholders was deferred from May 5 was based upon an application to Judge Price in Forty First District Court at El Paso, on behalf of Harry C. Hanszen and J. P. Scranton of Houston, both stockholders.

Among other allegations it was charged by them that stockholders had been refused access to the books and records of the company and they also questioned the validity of 1,400,000 shares of stock recently added to the number outstanding and placed in the name of Carl G. Cromwell, a drilling contractor of Big Lake, Texas.

The court's order immediately caused postponement of the Texon's annual meeting, scheduled for 10 a. m., May 5, and was followed by another order directing the defendants to appear in court Wednesday morning, May 6, and show cause why this issue of stock should not be cancelled.

Clarence G. Wharton of Houston, of defense counsel, following issuance of these orders, sent to Judge R. L. Batts of Austin, W. H. Burgess of El Paso and W. M. Downing of Denver, counsel for complaining stockholders, the original contract made with Cromwell, the by-laws, minutes of stockholders' meetings and other papers constituting records of the Texon Oil & Land Co.

The Cromwell contract, dated March 26, 1924, provided that Cromwell was to receive 2,400,000 shares of stock as compensation for drilling eight wells, validating university Lands, permits of the Texon and affiliated companies. This stock was to be issued, according to the contract, in installments as each well was completed; on a basis of 300,000 shares for each well.

It was also provided in the contract that tools and other drilling equipment owned by the Texon company were to be taken over by Cromwell, one lot for $3,000 and another for $5,000, in payment for which Cromwell gave his notes, due in November, 1924. This contract was signed by Cromwell, by Frank T. Pickrell as vice president of the Texon company, and witnessed by Nathan Sachs, Texon attorney.

A supplemental contract entered into on the same day stipulated that Cromwell was to assign in blank and deliver to Nathan L. Sachs all of the 2,400,000 shares to be issued to Cromwell, same to be held in escrow for two years, with the proviso that in the event Texon made an agreement for the sale of said stock with G. A. Loomis & Co., New York brokers, then all stock purchased under such agreement was to be delivered by Texon or Sachs to Loomis and the proceeds of the sale of such stock were to be deposited in a bank mutually agreed upon by Cromwell and Pickrell.

No Stock Sale Price Shown

Upon completion of all the wells provided for in the contract all moneys were to be withdrawn by Cromwell and to be his forever. This supplemental contract also was signed by Pickrell and Cromwell, but no mention was made of any price at which the stock was to be sold to or through Loomis.

Up to the date of the signing of this contract, Texon Oil & Land Co. had 1,912,000 shares outstanding. Somewhere between the signing of the contract and August, 1924, another one million shares were added to the outstanding stock. This made nearly three million shares of which stockholders had knowledge. It was not until after the stock transfer books closed on April 15, last, that representatives of the Stockholders' Protective Committee learned of 1,400,000 shares standing in the name of Carl G. Cromwell, so that the approximate outstanding stock of the company at this time is nearly 4,400,000 shares.

At the hearing May 6 on the application of Messrs. Hanszen and Scranton for an order compelling the defendants to permit stockholders to examine all the books and records of the company, Judge Wharton of Texon's counsel filed an answer to the application of plaintiffs. In this answer he first denied the jurisdiction of the court on the application for restraining order to defer the stockholders meeting and prayed for dissolution of the temporary injunction granted the preceding day.

Judge Wharton also denied the jurisdiction of the court to examine into other allegations made by the plaintiffs, contending that they had ample recourse under an action for receivership recently filed by William A. Schenck in federal court in Delaware, in which state the Texon is incorporated.

Then, answering further the allegations of the plaintiffs, Judge Wharton contended the books and the records of the company had been placed at the disposal of complaining stockholders and, therefore, they had no cause of action on that complaint.

Judge Wharton went into details as to organization of the company and the causes which impelled the directors to make the contract with Cromwell. The chief reason stated was the necessity for immediate and continuous drilling to complete a sufficient number of wells to validate certain university Lands permits.

Batts Asks for More Data

Replying to Judge Wharton, the complainants' counsel, Judge R. L. Batts of Austin, declared that the stockholders had not been given access to all of the records of the company to which they were entitled. He mentioned among other matters information as to the organization, contracts and dealings between the Texon and Group 1 and Group 2 companies, which dealings he said could not be ascertained without the complete records of these latter two companies.

While Judge Wharton volunteered to answer questions propounded by Judge Batts, the latter insisted that his request for detailed information and his reply to Judge Wharton's brief would have to be presented in writing to the court. He asked for delay sufficient to enable him to prepare this formal statement,

whereupon the hearing was continued until Thursday morning, May 7.

In the course of Judge Wharton's brief he contended that the election should be held as called for in the notice preceding the annual meeting, because the defendants had in their possession a sufficient number of votes and proxies to control the election without the Cromwell issue of 1,400,000 shares. He also stated that the defendants were willing to give the complaining stockholders representation on the board of directors.

Judge Batts' statement attacking in detail the validity of the Cromwell stock issue and other acts of the defendants was not ready May 7 and the case was continued another day in Judge Price's court.

The case at that stage appeared to be promising of further delays because of the moves and counter moves of counsel for opposing forces.

Barrage of Letters Issued

The day set for the annual meeting was preceded by a barrage of letters to stockholders, in which both the Stockholders' Protective Committee and the Texon Oil & Land Co. management took part.

Frank T. Pickrell, as vice president and general manager of the Texon signed a letter dated April 18, last, which recited that the Big Lake field, in Reagan county, "is controlled in its entirety by Texon Oil & Land Co., its subsidiary companies and the Big Lake Oil Co., in which company Texon Oil & Land Co., and Group No. 1 Oil Corp. own a one-fourth interest."

Pickrell, in his letter, referred to terms of a contract with the E. W. Marland interests, whereby the latter agreed to organize and finance the Reagan County Purchasing Co., capitalized at 1,000 shares of stock of no par value; and agreed to finance said company for $2,500,000 of preferred stock and . . . . . an additional $2,500,000 if necessary; said Reagan County Purchasing Co. to purchase and store in tanks which it would erect on the ground 10,000 barrels of oil per day until December 1, 1925, then 20,000 barrels per day thereafter for the life of the leases, at the average Mid-Continent posted price of oil of similar gravity; that they, Marland Oil Co., were obligated to begin a construction of a pipeline within six months after the date of the contract and to complete the same within six months thereafter; that 51 per cent of the common stock of the Reagan County Purchasing Co. should be retained by the Marland Oil Co., and 49 per cent of said stock should be the property of the Texon Oil & Land Co., and its subsidiaries and the Big Lake Oil Co., to be pro-rated according to the amount of oil furnished by each during the second year of the contract.

The letter further said that Texon Oil & Land Co. and its subsidiaries have the right to supply one half and the Big Lake Oil Co. the other half of all of the oil sold under the Marland contract.

Pickrell made reference to an agreement whereby Marland contracted with Humble Oil & Refining Co. for oil handled through the Reagan County Purchasing Co., this resulting in the construction of a pipeline outlet approximately 190 miles from Kemper tank farm to connection with the Humble's trunk pipeline at Comyn, Comanche county.

These were already generally known facts, dove-tailing in with the construction by the Reagan County Purchasing Co. of 17 steel storage tanks of 80,000 barrels capacity each; also completion of the Humble's pipeline, which is now running oil.

Texas Subsidiary Formed

Disclosures not generally known were made by Pickrell when he said:

"Pursuant to the Marland contract, the Texon Oil & Land Co. of Texas was organized under the laws of Texas, to which company was assigned all the property in Texas of the Texon Oil & Land Co. of Delaware. This company is capitalized at a nominal capital of $100,000 and all of its stock, with the exception of the qualifying shares of the directors, is owned by the Texon Oil & Land Co. of Delaware, the parent company.

"Group No. 1 Oil Corp. and Group No. 2 Oil Corp., both Delaware corporations, each obtained permits to do business in the state of Texas and all the leases and property owned or controlled by them were transferred of record to them respectively."

As of the date of Pickrell's letter he said that "Group No. 1 has completed six producing wells producing an average of approximately 8,000 barrels of oil per day and the Big Lake Oil Co. has completed 13 wells producing an average of 9,000 barrels per day."

Since that time, field records show the completion of Group 1's No. 7 well, starting off at the rate of 4,000 barrels daily; and the increase of the Big Lake Oil Co's. production to more than 14,000 barrels daily.

Pickrell's letter definitely states that Texon Oil & Land Co. of Delaware "owns control of Group No. 1 and these two companies jointly own one fourth of the stock of the Big Lake Oil Co., thirteen-sixteenths by Group No. 1 and three-sixteenths by Texon Oil & Land Co."

McAuliffe Suit at Dallas

The letter then refers to a bill of complaint filed in federal court at Dallas, by D. J. McAuliffe against Texon Oil & Land Co., its subsidiaries and the officers. Pickrell described McAuliffe as a "member of an organized party closely affiliated with one of the large oil companies of the country and represented by its counsel."

Judge Batts of complaining counsel was formerly head of the Gulf Oil Corp's. legal department in Texas, but retired into private practice a few years ago.

Pickrell said that the principal allegations in this bill are that titles to the properties are not of record in their respective names; that the respective properties of Group No. 1 and Group No. 2 were conveyed to these companies by Texon Oil & Land Co., without McAuliffe's knowledge and consent; and a "number of general vague, indefinite conclusions and ending in asking for a lot of information, most of which had been previously reported to stockholders and, apparently as an afterthought, asking for the appointment of a receiver."

Krupp Details New Contract

Under date of April 27, President Haymon Krupp of El Paso signed a letter asking for proxies to be voted at the Texon annual meeting, in which letter he said that on April 22, 1925, "we have succeeded in closing a contract with Humble Oil & Refining Co., on behalf of the Texon subsidiaries, for the sale of 7,500 barrels of oil per day for the period of one year, beginning May 15, 1925; this contract involved the sale of 2,737,500 barrels of oil."

A similar contract is known to have been made by Humble with the Big Lake Oil Co.

Stockholders' Committee Active

In the meantime, the Stockholders' Protective Committee, sent out from New York City a letter dated April 23, last, signed by the following members:

W. G. Skelly, president, Skelly Oil Co., Tulsa;

Holland S. Reavis, 120 Broadway, New York City;

D. J. McAuliffe, 120 Broadway, New York City;

Harry C. Hanszen, Individual Oil Operator, Carter Bldg., Houston.

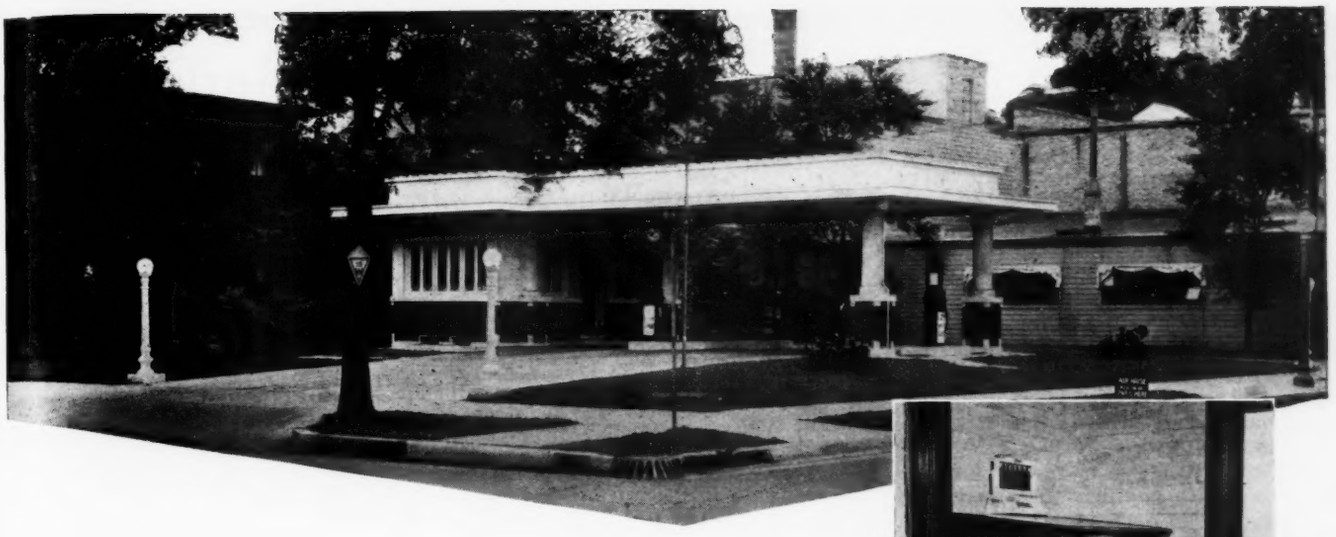
This letter, among other things, said:

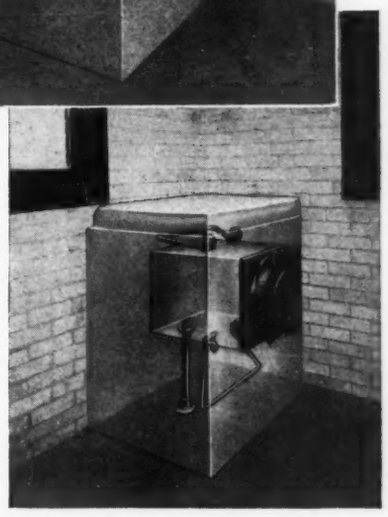
"Vice President Pickrell, in his circular letter of April 18, 1925, for the first time gives definite information on two very important points. He says (1) Texon Oil & Land Co. owns control (presumably not less than 51 per cent) of Group 1 Oil Corp, the only company besides the Big Lake Oil Co. having producing oil wells in the Reagan County field; and (2) that one-fourth of the stock of the Big Lake Oil Co. is owned 'jointly' by Texon Oil & Land Co., and Group No. 1 'thirteen-sixteenths by Group No. 1 and three-sixteenths by Texon Oil & Land.'

"In other words, the Texon Oil & Land owns three-sixty-fourths and Group 1 thirteen-sixty-fourths of the Big Lake Oil Co's. stock. Many stockholders had been under the impression that Texon Oil & Land owned a full one fourth interest in the stock of the Big Lake Oil Co.

"On another very important point, the issuance of one million additional shares of Texon Oil & Land Co. stock (increasing the outstanding capital stock to three million shares) last August and September, when the market price was advancing to $3 a share, Mr. Pickrell is silent.

"This stock was issued immediately after the completion of the first large wells on the Big Lake Oil Co.'s pro-





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St. Louis, Mo., 3rd and St. Charles Sts.
Cleveland, Ohio, 209 E. St. Clair St.
San Francisco, Cal., 216 Fremont St.
Pittsburgh, Pa., 427 7th Ave.
New Haven, Conn., 273 State St.
Houston, Texas, 414 San Jacinto St.

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perty, which definitely established the value and importance of the Reagan County oil field.

"The Texon management neither apprised stockholders of the issuance of this stock nor offered them the opportunity to subscribe to their pro rata rights—which should have been on the basis of 50 shares for each 100 shares owned.

"Our investigations have led us to believe that the additional one million shares were sold to or through a New York brokerage firm which apparently has had close relations with the Texon management for several years past. It is our purpose to ascertain the facts relative to this transaction .....
It is our purpose also to prevent further issues of stock, except by the usual and regular process of first offering stockholders their pro rata subscription rights."

On April 27, William A. Schenck, who described himself as a retired manufacturer, issued a circular letter to Texon stockholders from Meriden, Conn., in which he urged cooperation with the Stockholders' Protective Committee.

Schenck's letter said that he had on that day filed a suit in the federal court of Delaware in behalf of all stockholders of Texon Oil & Land Co., against said company, and against Messrs. Krupp, Pickrell and Sachs, as officers thereof, G. A. Loomis & Co. (New York brokers) Carl G. Cromwell, the Group No. 1 Oil Corp., and the Group No. 2 Oil Corp.

Crude Production by Districts

OKLAHOMA

	May 9	May 2
Cushing	22,200	22,150
Yale	7,000	7,100
Jennings	3,300	3,450
Garber, Billings	10,050	9,900
Tonkawa	60,250	61,750
Blackwell	5,200	5,200
North Okmulgee	15,800	15,800
Burbank, Osage county	56,100	58,250
Osage, outside Burbank	31,650	32,450
Healdton	15,400	15,350
Hewitt	15,650	16,050
Duncan	6,300	6,250
Lyons, Deaner	4,500	4,500
Bristow	34,900	34,150
Wewoka	13,850	13,700
Cromwell	41,750	41,900
Graham	9,800	10,200
Stroud	3,400	3,400
Papoose	24,500	24,350
Watchorn	5,450	6,300
Other fields	58,000	
Total	445,050	447,350
Decrease		2,300

KANSAS

	May 9	May 2
El Dorado, Towanda	13,900	13,850
Augusta, Fox Bush	6,000	6,000
Peabody, Elbing	5,400	5,400
Rainbow Bend	17,250	11,250
Florence, Covert	2,100	2,150
Other fields	51,000	50,800
Total	95,650	89,450
Increase		6,200

NORTH LOUISIANA

	May 9	May 2
Homer	6,800	6,900
Haynesville	13,900	14,000
Caddo, light	9,700	9,600
Caddo, heavy	2,350	2,150
De Soto, Red River	4,250	4,250
Elm Grove	750	750
Bellevue	3,700	3,850
Cotton Valley	10,900	10,650
Total	52,350	52,150
Increase		200

ARKANSAS

	May 9	May 2
El Dorado	9,150	9,200
Smackover, light	30,350	39,000
Smackover, heavy	358,800	312,800
Stephens	1,900	1,900
Nevada	1,600	1,600
Total	401,800	357,500
Increase		46,300

ROCKY MOUNTAIN

Wyoming

	May 9	May 2
Salt Creek	57,770	57,740
Teapot	2,225	1,930
Big Muddy	3,180	3,225
Grass Creek	4,775	4,460
Elk Basin	1,060	920
Greybull, etc.	140	150
Rock River	3,000	3,225
Lance Creek	1,035	1,775
Poison Spider	50	80
Osage	400	400
Hamilton Dome	640	375
Mule Creek	1,225	1,370
Lander	350	285
Lost Soldier	5,075	3,800
Ferris	75	75
Total Wyoming	81,000	79,810

Colorado

Craig	790	780
Fort Collins	1,075	875
Boulder	30	25
Florence	245	250
Rangely	100	110
Tow Creek	140	150
Total Colorado	2,380	2,190

Montana

Cat Creek	3,115	3,000
Kevin, Sunburst	3,650	3,500
Total Montana	6,765	6,500

New Mexico

Artesia	1,200	1,100
Rattlesnake	450	275
Hogback	535	520
Total New Mexico	2,185	1,895

Recapitulation

Wyoming	81,000	79,810
Colorado	2,380	2,190
Montana	6,765	6,500
New Mexico	2,185	1,895
Miscellaneous	200	200
Total	92,530	90,595
Increase		1,935

TEXAS AND COASTAL LOUISIANA

	May 9	May 2
Mexia, Currie, Richland	27,750	27,870
Corsicana, Powell	50,750	52,700
Wortham	54,580	54,300
Wichita Falls district	81,015	82,145
Ranger, lime	27,865	27,145
Ranger, sand*	21,130	21,440
W. Texas: Mitchell Reagan, Scurry counties	24,570	23,060
Panhandle	3,845	3,575
San Antonio, Luling and Mirando	48,690	48,320
Coastal Texas	95,500	93,490
Coastal Louisiana	7,700	7,775
Total	443,395	441,820
Increase		1,575

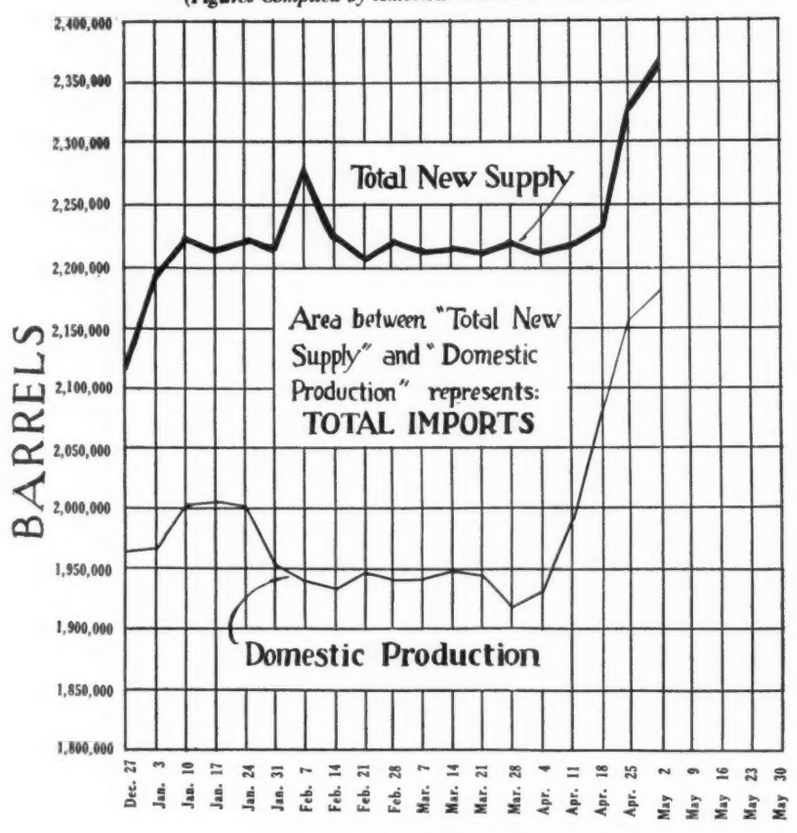
*Includes Young, Shackelford, Brown, Coleman, Callahan, Palo Pinto and Jack counties.

Crude Production Summary

Total E. of Rockies	1,633,775	1,578,865
Eastern	103,000	102,000
Increase		54,910

Daily Average Crude Oil Production and Imports

(Figures Compiled by American Petroleum Institute)



Fire Frequency is Low in Oil Industry Considering Products Handled

By H. L. Shoemaker, Frank A. Epps, Ralph J. Reed
American Petroleum Institute Sub-Committee on Fire Protection

AT THE twenty-eighth annual meeting of the National Fire Protection Association, held at Atlantic City, N. J., in May, 1924, that portion of the report of the committee on flammable liquids and also of the committee on laws and ordinances which deals with the spacing of above-ground tanks for storage of flammable liquids from the line of adjoining property which may be built upon, brought forth considerable discussion. That this particular matter, obviously of great importance to the petroleum industry, might be further considered, a conference or arbitration board of five members was authorized, representing the following organizations:

National Board of Fire Underwriters;

Associated Factory Mutual Fire Insurance Companies;

Bureau of Explosives;

International Association of Fire Engineers;

American Petroleum Institute.

At the American Petroleum Institute's annual meeting at Fort Worth, in December, 1924, W. R. Boyd, Jr., assistant general secretary, was named as its representative and the Institute's committee on fire prevention and protection to life and property appointed a subcommittee of three of its members—Messrs. H. L. Shoemaker, chairman, Frank A. Epps, and Ralph J. Reed—to proceed immediately with the collection of data for the purpose of determining what Mr. Boyd's recommendations to the conference board should be.

Conclusions

The sub-committee finds that the composite tank fire record of the oil industry is a most remarkable one. Considering the nature of the commodities handled, the fire frequency in such tanks is much lower than might be expected. As a result of its study the committee recommends:

1. For above-ground, gas-tight containers the records indicate that gasoline, kerosene and refined oils, and fuel oil should all be placed in the same classification. Crude oil presents a different hazard and should be classified separately.

2. The following spacings between above-ground, gas-tight containers and line of adjoining property which may be built upon are recommended:

(a) For Class I, II and III liquids (except crude oils), one tank diameter.

(b) For crude oils, two tank diameters.

(c) When an approved chemical fire extinguishing system is provided, one-half the tank spacings above specified may be used.

3. Above-ground, gas-tight containers for crude oils should be surrounded by fire walls or dikes of earth or other suitable material, and should be:

(a) of a capacity equal to that of the tank or tanks surrounded, unless adequate drainage to a sump of like capacity is provided;

(b) located not nearer to the shell of any of the enclosed tanks than the diameter of the largest tank enclosed, and in any case not less than 50 feet;

(c) provided with a suitable coping projecting inward to turn back boil-overs.

The detailed manner in which the committee conducted its investigations, an analysis of the data collected, and a discussion of the conclusions briefly summarized above will be found in the pages following.

I. Scope of Investigation

At the outset of this investigation it appeared to the committee that the task assigned to it resolved itself into five essential items as follows:

1. To obtain a measure of the inherent fire hazard of above-ground storage tanks containing the four petroleum products under consideration, namely, gasoline, kerosene and refined oils, crude oil, and fuel oil;

2. To determine the relative safety of the standard gas-tight tank as specified in the National Fire Protection Association suggested model ordinance, as compared with tanks of other construction not complying with this specification;

3. To determine the conditions under which oil tank fires spread, and how far they spread, with particular reference to the grades of oil mentioned above;

4. To measure not only the effectiveness of fire walls in preventing the spread of fires from the different types of tanks, containing the various grades

Industry Can be Proud of Its Fire Record

FOLLOWING is the full report of the special committee of oil engineers who investigated nearly 500 oil tank fires and reported conclusions and recommendations for tank construction and location, all of which was approved by the oil industry conference held at Chicago several weeks ago under the direction of the American Petroleum Institute.

This report is the first comprehensive tank survey ever made for the oil industry. The facts found and the conclusions reported will save the industry millions of dollars in plant construction and location.

The report strikingly shows how safe oil tanks of proper construction really are. Even the engineers who gathered the information were surprised at the showing made on behalf of the properly constructed tank.

This report was gotten up primarily to be used in conducting arbitration with the fire insurance interests on whether oil tanks, gas tight, should be constructed a distance from adjoining property line equal to one diameter of the tank, or two diameters or three or more. This arbitration was agreed on by the two interests a year ago as the best way to decide the question, the decision to go into the rules and recommendations of the National Fire Protection Association and the National Board of Fire Underwriters.

This arbitration proceeding was held at New York last week. The oil industry's case was presented by W. R. Boyd, Jr., assistant secretary of the institute but the arbiters could not agree. Col. B. W. Dunn of the Bureau of Explosives supported the oil industry's recommendation of one tank diameter, the fire insurance interests wanted much greater distance. The arbitration committee failing to agree, the matter will come before the annual meeting of the National Fire Protection Association at Chicago, May 12-14.

But whatever the immediate outcome of that fight, the oil industry can well feel proud of the following report and can properly place great confidence in it and use the facts and the conclusions therein in making its tank building plans and specifications.—W. C. P. Editor.

of oil, but also to determine the necessity or advisability of providing fire walls for certain types of containers and certain grades of oil;

5. To establish from the data obtained proper spacing requirements between adjacent property and above-ground oil storage.

To obtain sufficient information from which to draw conclusions with respect to these five items, it appears advisable to secure as far as practicable a record of every oil storage tank fire that has occurred in the United States during the past 10 years. Every available compilation of records was consulted, those of the following organizations being referred to so far as they related to oil tank fires:

National Fire Protection Association;
National Board of Underwriters;
Bureau of Mines;
Bureau of Explosives;
Associated Factory Mutual Fire Insurance Companies;
National Petroleum Mutual Fire Insurance Company;
Western Actuarial Bureau;
Underwriters Laboratories, Inc.;
Oil Insurance Association;
Louisiana Fire Prevention Bureau;
Southeastern Underwriters Association;
Fire and Water Engineering Magazine;
Foamite-Childs Corporation;
Johnson & Higgins, Inc.

The information obtained in each case was the date, location and brief description of the fire, with the name of the company whose property was affected. Further, a careful analysis was made of news reports of important fires occurring in the United States from Jan. 1, 1915, to date. In many instances the names of specific companies were not mentioned, and in such cases letters were sent to the local fire chiefs that such fires might be further traced. Approximately 300 inquiries were directed to fire chiefs throughout the country and replies were received from about 90 per cent of them.

The principal oil trade associations in the United States, cooperating in this investigation, asked their respective memberships for their fire records. These organizations included;

National Petroleum Association;
National Petroleum Marketers Association;
Western Petroleum Refiners Association.
Mid-Continent Oil and Gas Association;
Natural Gas Association;
Association of Natural Gasoline Manufacturers;
Independent Oil Men's Association;
American Oil Men's Association.

To give additional publicity, a brief statement regarding the investigation was issued by the committee and published in practically every periodical reaching oil trade and fire protection circles.

A total of 130 companies representing all the phases of the petroleum business, namely, production, transportation, refining and marketing, were invited to send representatives to regional conferences, held by the committee during January, February, and March at New York, Chicago, Dallas, Tulsa, Denver, and Los Angeles. As of March 20, 1925, 87 of these organizations had furnished complete information to the committee. On that date 992 reports of oil fires had been traced, and definite records of one-third of these had been received.

Records for one-third had not at that time been received, and the remaining number were dropped from consideration on account of the fact that the record was erroneous, could not be obtained, or because the fire reported did not involve oil tanks. In most cases of unobtainable records the fires involved were of such small consequence that no record was kept. From the representative nature of the reports at hand, their large number, the territory covered in the investigation, and the branches of the industry participating, the committee has felt warranted in proceeding to analyze the data gathered and from it to draw definite conclusions.

It is believed that the material in the hands of the committee fairly represents the composite fire record of the entire oil industry of the United States, particularly since all the major operating companies, many of whom do not make fire reports to any central actuarial or insurance agency, have supplied their entire fire history. The committee believes that it now has in its possession records of all the important oil tank fires that have occurred in the United States in the past decade. With this comprehensive information as a basis the committee has made its analysis, and presents in detail in the following four sections of the report its discussion of data, conclusions and recommendations.

II Tank Construction and Ignition

The committee has classified fires, and tanks involved in each fire, according to type of oil property, kind of oil, and major fire cause. Fire records have been divided into three classes, the first class covering tanks which burned over

TABLE I

FIRE RESISTIVE CHARACTERISTICS OF STANDARD TANKS vs CAUSE OF FIRE

TANKS THAT BURNED | NO. OF FIRES 304 | TANKS BURNED 416

	NO. OF FIRES	NO. OF TANKS	TANK CLASSIFIC'N	SUB TOTALS	CAUSE OF FIRE: LIGHTNING	EXPOSURE	ALL OTHER CAUSES
REFINERIES	88	158	STD. GAS TIGHT	11	5	2	4
			NON STD. "	3	3	-	-
			NON " "	144	56	69	19
			SUB TOTAL	158	64	71	23
MARKETING	39	47	STD. GAS TIGHT	39	1	35	3
			NON STD. "	-	-	-	-
			NON " "	8	-	6	2
			SUB TOTAL	47	1	41	5
PIPE LINES & OCEAN TERMINALS	81	91	STD. GAS TIGHT	2	-	1	1
			NON STD. "	2	2	-	-
			NON " "	87	67	13	7
			SUB TOTAL	91	69	14	8
TANK FARMS	88	112	STD. GAS TIGHT	3	-	1	2
			NON STD. "	5	5	-	-
			NON " "	104	86	11	7
			SUB TOTAL	112	91	12	9
MISCELL.	8	8	STD. GAS TIGHT	-	-	-	-
			NON STD. "	-	-	-	-
			NON " "	8	5	2	1
			SUB TOTAL	8	5	2	1
	304	416	TOTAL	416	230	140	46

TABLE II

FIRE RESISTIVE CHARACTERISTICS OF STANDARD TANKS vs KIND OF OIL

TANKS THAT BURNED | NO. OF FIRES 304 | TANKS BURNED 416

	NO. OF FIRES	NO. OF TANKS	TANK CLASSIFIC'N.	SUB TOTALS	KIND OF OIL: GASOLINE	KERO. & REF OILS	CRUDES	FUEL OILS	NOT STATED & LUB OILS
REFINERIES	88	158	STD. GAS TIGHT	11	6	1	2	2	-
			NON STD. "	3	1	-	2	-	-
			NON " "	144	40	47	43	8	6
			SUB TOTAL	158	47	48	47	10	6
MARKETING	39	47	STD. GAS TIGHT	39	18	18	-	1	2
			NON STD. "	-	-	-	-	-	-
			NON " "	8	6	2	-	-	-
			SUB TOTAL	47	24	20	-	1	2
PIPE LINES & OCEAN TERMINALS	81	91	STD. GAS TIGHT	2	-	-	1	1	-
			NON STD. "	2	-	-	2	-	-
			NON " "	87	3	-	83	1	-
			SUB TOTAL	91	3	-	86	2	-
TANK FARMS	88	112	STD. GAS TIGHT	3	-	-	3	-	-
			NON STD. "	5	-	-	5	-	-
			NON " "	104	5	2	97	-	-
			SUB TOTAL	112	5	2	105	-	-
MISCELL.	8	8	STD. GAS TIGHT	-	-	-	-	-	-
			NON STD. "	-	-	-	-	-	-
			NON " "	8	3	-	4	1	-
			SUB TOTAL	8	3	-	4	1	-
	304	416	TOTAL	416	82	70	242	14	8

the entire exposed oil surface, the second class covering tanks which burned only at vents and hatches, the third class covering tanks which were exposed to fire, but were not ignited in any manner. Tankage has been separated into three distinct kinds; first, standard gas-tight tanks as hereafter defined; second non-standard gas-tight tanks; third, non-gas-tight tanks.

In this report a "standard gas-tight tank" is one which is built and maintained strictly as described in the Suggested Model Ordinance. A "non-standard gas-tight tank" is one in which gas-tight construction is intended, but in which the construction is not in exact accordance with the ordinance. For example, a steel tank without a steel roof, but made gas-tight by any one of several means, is here considered a "non-standard gas-tight container." All other containers are classed as "non-gas-tight."

The data gathered are presented in several sets of tables. The committee has the following comments to make with reference to Table I. An analysis of the 304 fires occurring in 10 years and involving 416 tanks, indicates that fewer fires occur in marketing stations than in any other class of property. In this connection, 87 companies (including the largest oil marketing companies in the United States) report the following:

Oil Tank Fires in 10-Year Period (1915-1925) Reported by 87 Companies

Class of Oil Property	No. of Plants or Stations	No. of Fires Reported in Ten Years	Or One Fire per Plant in
Refineries.....	143	73	20 years
Marketing Stations..	11,132	19	5,860 years
Pipe Line and Ocean Terminals.....	273	77	35 years
Tank Farms.....	713	88	81 years

These records clearly demonstrate that the marketing station is a far safer risk than any other type of oil property.

Table I shows that lightning caused 55 per cent of all the fires in this record. Of the 230 tanks so ignited, only six were strictly gas-tight containers as called for by the suggested model ordinance. A detailed analysis of these six fires gives evidence of unprotected vents. Attention is called to the fact that approximately 93 per cent of the tanks ignited by lightning were not gas-tight. The records show that many had wooden roofs.

Exposure, that is, proximity to fire originating in another structure, ignited about one-third of the tanks covered by this statement. Of these tanks, 39 were apparently gas-tight, and were located principally at marketing stations. The records show that most of these tanks were ignited by fires originating in warehouses, pump houses, or like structures, or as a result of truck filling operations.

Table I shows that there are more fires in gas-tight tanks at marketing stations than in non-gas-tight tanks. This is natural in view of the predominance of gas-tight tanks at such locations. Data as hereafter presented shows the excellence of this record.

Referring to Table II it should be noted that the five columns at the left are the same as those in Table I. In other words, the same fire records have here been analyzed with reference to "Kind of Oil." This table indicates that 58 per cent of the tanks that burned contained crude oil, stored mostly in tanks of non-gas-tight construction. This is held to demonstrate that the majority of oil tank fires involved crude. It also shows the fire hazard of crude oil when stored in non-gas-tight containers.

Regarding fires in fuel oil tanks, the committee has been able to secure evidence of only 14 such fires in the ten year period. Four of these fires were in standard containers. Therefore, considering the practically insignificant fire record in such tankage, the committee firmly believes that rules drafted to cover crude oil storage should by no means be applied to fuel oil storage.

With reference to gasoline fires as shown on Table II, it is observed that 20 per cent of all tankage burned contained this commodity. Less than one-third of these tanks were gas-tight. Three-quarters of the gas-tight tanks that burned (eighteen in number) were located on marketing properties, and in Table I, exposure is shown to be the chief cause of these fires. A detailed analysis of these 18 cases indicates that the reason for this ignition by exposing fire can be attributed largely to unprotected vents, to vents of insufficient capacity, and to other features which made the tanks non-standard at the time of ignition.

Regarding kerosene and refined oil fires, it is observed that these fires represent 17 per cent of the tanks that have burned. With reference to gas-tight tankage for these products at marketing stations, the same comments made for gas-tight gasoline tanks are here applicable. The committee directs attention to the fact that there is little, if any, difference in hazard between kerosene and refined oils and gasoline.

Table III summarizes the experiences of the 87 companies reporting not only

TABLE III

ANNUAL FIRE-LOSS RATIOS FOR STEEL-ROOFED VS. WOOD-ROOFED TANKS (AS REPORTED BY 87 COMPANIES)

TANKS THAT BURNED — NO. OF TANKS 377

KIND OF OIL	NO. OF TANKS IN SERVICE 1925 AS REPORTED	NO. OF TANKS IN SERVICE 1915 (ESTIMATED)	AVERAGE NO. TANKS IN SERVICE IN 10 YR. PERIOD (ESTIMATED)	NO. OF TANKS BURNED IN 10 YR. PERIOD	ANNUAL FIRE LOSS RATIO OR PERCENT OF TANKS LOST BY FIRE PER YEAR
WOOD-ROOFED TANKS					TOTAL 280
GASOLINE	163	127	145	26	1.78 %
KERO. AND REF'D OIL	237	185	211	32	1.52 %
CRUDES	5889	4584	5237	217	.415 %
FUEL OIL	391	304	347	5	.144 %
STEEL-ROOFED TANKS					TOTAL 97
GASOLINE	19076	12670	15873	41	.026 %
KERO. AND REF'D OIL	14539	9650	12594	35	.028 %
CRUDES	2816	1870	2343	15	.064 %
FUEL OIL	1585	1052	1318	6	.045 %

TABLE IV

FIRE RESISTIVE CHARACTERISTICS OF STANDARD TANKS VS CAUSE OF FIRE

FOR TANKS THAT BURNED ONLY AT VENTS & HATCHES — NO. OF FIRES 46 — TANKS BURNED 117

	NO. OF FIRES	NO. OF TANKS	TANK CLASSIFICN.	SUB TOTALS	CAUSE OF FIRE: LIGHTNING	EXPOSURE	ALL OTHER CAUSES
REFINERIES	47	41	STD. GAS TIGHT	10	3	7	-
			NON STD.* "	1	-	1	-
			NON " "	30	2	27	1
			SUB TOTAL	41	5	35	1
MARKETING	22	57	STD. GAS TIGHT	34	-	34	-
			NON STD.* "	1	-	1	-
			NON " "	22	-	21	1
			SUB TOTAL	57		56	1
PIPE LINES & OCEAN TERMINALS	3	8	STD. GAS TIGHT	6	-	6	-
			NON STD.* "	1	-	1	-
			NON " "	1	1	-	-
			SUB TOTAL	8	1	7	
TANK FARMS	1	3	STD. GAS TIGHT	3	-	3	-
			NON STD.* "	-	-	-	-
			NON " "	-	-	-	-
			SUB TOTAL	3		3	
MISCELL.	3	8	STD. GAS TIGHT	5	-	5	-
			NON STD.* "	-	-	-	-
			NON " "	3	-	3	-
			SUB TOTAL	8		8	
	46	117	TOTAL	117	6	109	2

fire data, but number of tanks in service. It illustrates clearly the following.

1. That wood-roofed tanks, as a class, are greater risks than steel-roofed tanks.

2. That steel-roofed tanks as a class appear to be negligible risks, regardless of the kind of oil stored. It is doubtful if there are many insurable risks that can show such low fire frequency.*

3. That the marked trend of the industry is toward all steel tank construction. It is estimated that eighty-seven companies in the ten-year period increased their wood-roofed tankage 28 per cent and their steel-roofed tankage more than 50 per cent.

4. That, irrespective of flash point, gasoline, kerosene and refined oils are almost equal fire risks when stored in outside above-ground steel-roofed tankage. As there is no better measure of fire risk than the ratios expressed in the table, such products should receive identical treatment in the matter of tank spacing.

Fuel oil, while having a somewhat greater fire-loss ratio than gasoline and refined oils, is nevertheless far harder to ignite, and much easier to extinguish. Few fuel oil fires have ever occurred and in no instance does the record show that fire was communicated to adjacent structures. Accordingly it appears reasonable to recommend that fuel oils be classed with gasoline and refined oils for purposes of tank spacing.

Crude oil, on the other hand, has the highest fire-loss ratio. It is subject to "boil-over," and has caused fire spread in many instances. Accordingly it appears desirable to classify crudes separately when establishing distances between such containers and adjacent property lines.

In the relatively few cases of ignition of standard gas-tight tanks it is observed that such ignition resulted directly because of some defect in equipment which rendered the tank sub-standard at the time of ignition. This is a fact of prime importance, emphasizing as it does the necessity for the continuance of the excellent tank maintenance record of the industry. The committee believes that every oil company owning gas-tight storage containers should, if this is not already its practice, institute at once careful and periodical inspection of such equipment at reasonably frequent intervals: that records of these inspections should be kept; and that defects found should promptly be remedied.

So far attention has been focused entirely upon the cases in which the tanks involved burned over the entire exposed oil surface. The committee has investigated, likewise, fires of lesser magnitude, unimportant as fires, but very important in considering the fire-resistive characteristics of the tanks involved. In such instances the tanks have burned only at vent, hatch and roof openings. In practically all of these cases a detailed analysis of each indicates that fires have not spread to adjoining structures. As might be expected the tabulation in Table IV shows that such fires or ignitions have been caused largely by exposure to another fire. In fact about 93 per cent of them may be attributed to this cause. Proper flame protection for all roof or hatch openings is, therefore, shown to be of great importance.

Referring to Table V, it will be noted that of 117 tanks burning at vents and hatches, 70 per cent contained gasoline. This is natural in view of the volatile character of this product, and the lesser volatility of the other products. This table should be compared with Table IV.

The record of tanks exposed to fire, but not ignited, has also been prepared and is set forth in Table VI. Of 248 tanks in 82 fires, 32 per cent were so seriously exposed that the paint was blistered, and in many cases burning oil or flame actually enveloped the tanks. Twenty-three per cent of the tanks, while less seriously exposed, were still in very grave danger as the wind blew the flames from the exposing fire toward the tank and, in some cases, burning oil was very close by. The remaining tanks were either moderately or mildly exposed, the fires in such cases being respectively about one and two diameters away from the tanks.

In reviewing this table, it is observed that the bulk of tanks exposed to fire were located in refineries and marketing

*In considering Table III, it is interesting to compare the annual fire-loss ratios for tanks containing petroleum products with those applying to dwelling houses, which are generally conceded to represent a very low fire risk:

Number of dwellings in U.S. in 1920 (The World Almanac, 1925)	20,697,204
Number of Fires in Dwellings in U.S. per year (Safeguarding America Against Fire, December, 1924)	131,035
Annual Fire-loss Ratio (or percentage of dwellings burned per year)	0.63%

TABLE V

FIRE RESISTIVE CHARACTERISTICS OF STANDARD TANKS vs KIND OF OIL

TANKS THAT BURNED ONLY AT VENTS AND HATCHES — NO. OF FIRES 46 — TANKS BURNED 117

	NO. OF FIRES	NO. OF TANKS	TANK CLASSIFIC'N	SUB TOTALS	KIND OF OIL: GASOLINE	KERO. & REF. OILS	CRUDES	FUEL OILS	NOT STATED & LUB OILS
REFINERIES	17	41	STD. GAS TIGHT	10	10	-	-	-	
			NON STD.* "	1	-	-	1	-	
			NON " "	30	19	8	3	-	
			SUB TOTAL	41	29	8	4		
MARKETING	22	57	STD. GAS TIGHT	34	24	9	-	1	
			NON STD.* "	1	1	-	-	-	
			NON " "	22	18	4	-	-	
			SUB TOTAL	57	43	13		1	
PIPE LINE & OCEAN TERMINALS	3	8	STD. GAS TIGHT	6	5	1	-	-	
			NON STD.* "	1	-	-	-	1	
			NON " "	1	-	-	1	-	
			SUB TOTAL	8	5	1	1	1	
TANK FARMS	1	3	STD. GAS TIGHT	3	-	-	3	-	
			NON STD.* "	-	-	-	-	-	
			NON " "	-	-	-	-	-	
			SUB TOTAL	3			3		
MISCELL.	3	8	STD. GAS TIGHT	5	4	1	-	-	
			NON STD.* "	-	-	-	-	-	
			NON " "	3	2	1	-	-	
			SUB TOTAL	8	6	2	-	-	
	46	117	TOTAL	117	83	24	8	2	

TABLE VI

FIRE RESISTIVE CHARACTERISTICS OF STANDARD TANKS vs KIND OF OIL

TANKS THAT WERE EXPOSED TO FIRE — NO. OF FIRES *82 — TANKS EXPOSED** 248

	NO. OF FIRES	NO. OF TANKS	TANK CLASSIFIC'N	SUB TOTALS	KIND OF OIL: GASOLINE	KERO. & REF. OILS	CRUDES	FUEL OILS	NOT STATED & LUB OILS
REFINERIES	34	141	STD. GAS TIGHT	25	8	5	2	8	2
			NON STD.* "	2	1	-	1	-	-
			NON " "	114	25	45	7	13	24
			SUB TOTAL	141	34	50	10	21	26
MARKETING	32	76	STD. GAS TIGHT	70	44	23	2	-	1
			NON STD.* "	-	-	-	-	-	-
			NON " "	6	3	3	-	-	-
			SUB TOTAL	76	47	26	2	-	1
PIPE LINE & OCEAN TERMINALS	4	7	STD. GAS TIGHT	3	2	-	1	-	-
			NON STD.* "	-	-	-	-	-	-
			NON " "	4	-	-	-	4	-
			SUB TOTAL	7	2	-	1	4	-
TANK FARMS	6	13	STD. GAS TIGHT	7	-	1	6	-	-
			NON STD.* "	-	-	-	-	-	-
			NON " "	6	-	-	6	-	-
			SUB TOTAL	13	-	1	12	-	-
MISCELL.	6	11	STD. GAS TIGHT	6	6	-	-	-	-
			NON STD.* "	-	-	-	-	-	-
			NON " "	5	-	-	4	-	1
		0	SUB TOTAL	11	6	-	4	-	1
	82	248	TOTAL	248	89	77	29	25	28

*In 28 of these 82 fires no tanks were burned or ignited at vents or hatches. 23 of these cases occurred at Marketing Stations.

**All tanks were more or less seriously exposed-but not ignited; as per following sub-classification:
80 tanks - Very seriously exposed. Paint blistered and/or burning oil or flame around tank.
58 " - Seriously exposed. Wind blew flames toward tank and/or burning oil nearby.
64 " - Moderately exposed. Fire about one diameter from tank.
46 " - Mildly exposed

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stations, which two classes of properties are most frequently found in corporate limits. This is indicative of the fire-resistive characteristics of tanks in such limits. Of 248 tanks exposed, 111 were strictly gas-tight. In refinery properties the 114 non-gas-tight tanks exposed to fire were mostly steel-roofed tanks. It is reasonable to assume that the majority of these tanks were protected by steam and water, and in many cases foam. This, of course, largely accounts for the fact that so many non-gas-tight tanks resisted fire. On the other hand, tankage at marketing stations, that successfully resisted fire exposure, was gas-tight and did not have the advantage of any special protection.

The excellent exposure record of marketing stations is typical of conditions throughout the country. For example, one large company reports approximately 4200 bulk marketing stations in service and only 1600 within reach of water fire lines. This company has experienced only eight gasoline tank fires and six refined oil tank fires in 10 years' operation of these properties. The committee doubts if there are many other businesses engaged in the handling and storage of combustible products on this scale that can show such records.

III. Tank Spacing

Reference is now made to Table VII, Spread of Fire, in which records of 304 oil fires involving 416 tanks have been analyzed with reference to the distance from the nearest structure which was not ignited, both distances being expressed in terms of tank diameters. As before, the tanks affected are classed as to type of construction, and the commodities stored are arranged in four groups.

It will be observed that 43 presumably gas-tight tanks containing gasoline, kerosene and refined oils were burned. For 30 of these no spread of fire was stated, it being a fair assumption that the commodity merely burned in the tank without damage to adjacent structures. In the case of 11 of these tanks, the fire spread was more than one diameter. Reference has been made to the original record in each of these cases, and the following reasons briefly explain the occurrences. The fire spread appears to be due either:

(a) to insufficient vent capacity, causing explosion and scattering of tank contents; or
(b) to the absence of flame-arresting devices, allowing propagation of flame into the tanks; or
(c) to improper construction, as, for example, pump-house built beneath tank; or
(d) to improper judgment in handling fire, as, for example, puncturing tank shell with rifle bullet during fire in adjacent pump-house.

Note that this record, covering a 10-year period and indicating 11 instances in which presumably gas-tight tanks containing gasoline and refined oils have burned with a fire spread in excess of one tank diameter, is exceedingly remarkable when it is understood that this represents the full fire experience of about 50,000 tanks in service for ten years. With two exceptions, the 11 instances were all relatively unimportant fires occurring in small bulk marketing stations. Few gas-tight tanks containing fuel oils have burned. No spread of fire is recorded for these.

As fire spread from gasoline, kerosene, and fuel oil tanks has occurred in so relatively few instances, the committee feels that it is impossible to deduce requirements for tank spacing from these isolated cases. This is especially obvious because practically all of the cases cited were unimportant fires.

In formulating its recommendations the committee has therefore given consideration to present-day practice of the industry in spacing tanks from adjacent property. At marketing stations, for example, the committee is forced to conclude that the industry as a whole does not have any generally established rule in this regard. It is to be observed, however, that about one-half the companies reporting marketing station practice (including practically all the larger companies operating in the various sections of the country) ordinarily use tanks in these locations approximating 10 feet by 30 feet in size with a capacity of about 400 barrels. It is also observed that the majority of companies using this size of marketing tank now maintain a minimum distance of 10 feet from shell to property line in their newer installations. This corresponds to a one-diameter spacing.

Of the companies reporting present practice in spacing the larger tanks usually found at refineries, large bulk installations, and ocean loading terminals, the records also show no standards of spacing. About one-third of the companies, however, report that ordinarily for new construction the endeavor is to maintain about one diameter as a minimum distance from shell to adjacent property line. The committee thus believes that a recommendation of one diameter spacing, for all commodities save crudes, follows what the oil in-

TABLE VII

SPREAD OF FIRE

TANKS THAT BURNED — NO. OF FIRES 304 — TANKS BURNED 416

KIND OF OIL	NO. OF TANKS	DISTANCE TO	DISTANCE IN TERMS OF TANK DIAMETER: NOT STATED OR INCOMPLETE DATA	NO SPREAD OR NONE NEARBY	UP TO ½ D.	½ TO 1	1 TO 1½	1½ TO 2	2 TO 2½	2½ TO 3	3 TO 4	OVER 4
STANDARD GAS-TIGHT TANKS												TOTAL 55
GAS. & REF. OILS*	43	Farthest structure ignited	20	10	1	1	2	-	1	-	-	8
		Nearest structure not ignited	8	-	3	2	3	3	-	2	1	21
CRUDES	6	Farthest structure ignited	-	4	-	-	-	1	-	-	-	1
		Nearest structure not ignited	2	-	-	-	-	-	-	1	3	-
FUEL OILS	4	Farthest structure ignited	2	2	-	-	-	-	-	-	-	-
		Nearest structure not ignited	3	-	1	-	-	-	-	-	-	-
OTHERS	2		2									
NON-STANDARD GAS-TIGHT TANKS												TOTAL 10
GAS. & REF. OILS*	1	Farthest structure ignited	-	-	1	-	-	-	-	-	-	-
		Nearest structure not ignited	-	-	-	-	-	1	-	-	-	-
CRUDES	9	Farthest structure ignited	3	6	-	-	-	-	-	-	-	-
		Nearest structure not ignited	1	1	1	-	-	1	-	-	2	3
FUEL OILS	0	Farthest structure ignited	-	-	-	-	-	-	-	-	-	-
		Nearest structure not ignited	-	-	-	-	-	-	-	-	-	-
OTHERS	0		-	-	-	-	-	-	-	-	-	-
NON GAS-TIGHT TANKS												TOTAL 351
GAS. & REF. OILS*	108	Farthest structure ignited	43	51	2	1	-	-	1	2	3	5
		Nearest structure not ignited	50	1	9	9	14	-	3	4	12	6
CRUDES	227	Farthest structure ignited	60	124	-	4	4	3	3	1	9	19
		Nearest structure not ignited	52	5	1	15	18	12	15	17	39	53
FUEL OILS	10	Farthest structure ignited	2	6	1	-	-	-	-	-	-	1
		Nearest structure not ignited	3	-	2	1	-	2	-	1	-	1
OTHERS	6											

TABLE VIII

EFFECTIVENESS OF FIRE WALLS

TANKS THAT BURNED — NO. OF FIRES 304 — TANKS BURNED 416

KIND OF OIL	NO. OF TANKS	CAPACITY OF FIRE WALLS	NO DATA SUPPLIED, OR OIL REMAINED IN TANK	FIRE SPREAD BECAUSE FIRE WALL INEFFECTIVE	FIRE DID NOT SPREAD, AS FIRE WALL EFFECTIVE	FIRE SPREAD BECAUSE OF NO FIRE WALL
GASOLINE KEROSENE AND REFINED OILS	152	NOT STATED	7			
		0% (NO WALLS)	99			12
		UNDER 100%	8		2	
		100% TO 150%	9		2	
		OVER 150%	9		4	
CRUDE OILS	242	NOT STATED	7	4	1	
		0% (NO WALLS)	15			9
		UNDER 100%	11	15	7	
		100% TO 150%	54	46	39	
		OVER 150%	15	10	9	
FUEL OILS	14	NOT STATED	3			
		0% (NO WALLS)	4			1
		UNDER 100%	2			
		100% TO 150%	2			
		OVER 150%	2			
OTHER OILS	8	NOT INVESTIGATED				

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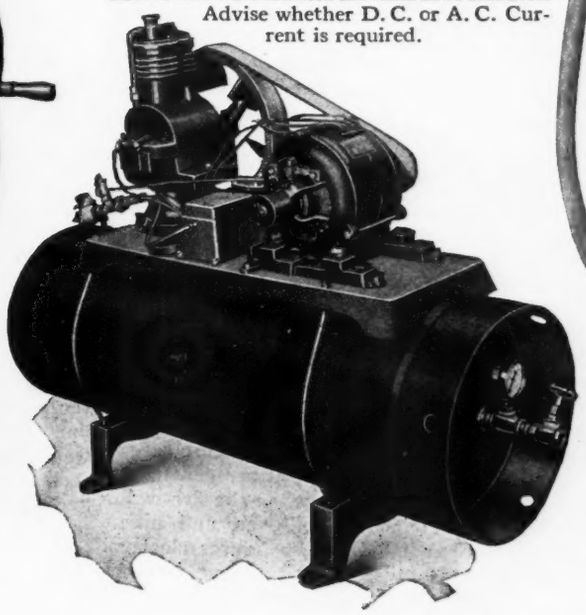

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dustry already has established as good practice and is sufficient to protect properly all interests concerned.

The committee points out that the fire record of the petroleum industry analyzed herein, and excellent as it is, has been based on past practice which in many cases, as stated previously, does not measure up to the standard now being recommended (i.e., one tank diameter between tank shell and proper line for gasoline, kerosene and refined oils, and fuel oil). In other words, there are in service today thousands of tanks operated by hundreds of companies throughout the country that are spaced much less than one diameter from property lines. It therefore appears to the committee that spacing of one tank diameter for future construction (except for crude oils) provides ample and adequate safety.

Regarding crude oil when stored in gas-tight tankage, Table VII shows six fires in two of which the fire spread more than one diameter. The table thus apparently indicates that, when stored in gas-tight containers, there is no great difference in hazard between crude oil and the other products just considered. The figures given in Table III under "Annual Fire Loss Ratio" for crudes in steel-roofed tankage also point to the same conclusion. The committee believes, however, that the record of 6 crude tank fires quoted in Table VI should hardly be considered as conclusive in view of the few fires and the generally limited use, until recent years, of this type of container for crude oils. A detailed examination of the reports of these six fires indicates the probability that the tanks in question had unprotected vents, and might therefore have been considered as non-standard gas-tight containers at the time of ignition. In years to come, with increasing use of gas-tight tankage for crude, more conclusive data will be available.

In the meantime, the committee gives more consideration to the following facts:

(a) that 58 per cent of all fires recorded, considering all classes of storage, were crude oil fires, this establishing the preponderance of fires involving this material;

(b) that crude oil is more hazardous than the other commodities mentioned, due to the "boil-over" hazard, which requires greater area to minimize fire effect and to provide for adequate fire walls;

(c) that the inherent different hazard of crude storage is recognized by the industry itself, since the current practice, as shown by recent reports, is to space large, steel-roofed crude oil tanks, even in outlying districts, one and one-half to two diameters apart and from adjacent property.

These considerations, together with a study of fires in which "boil-overs" have occurred, lead the committee to recommend a spacing of two tank diameters from shell of tank to line of adjoining property which may be built upon, as a reasonable spacing providing adequate safety to all concerned. When crude oil is stored within corporate limits the committee believes that it constitutes a different hazard than the other commodities mentioned, justifying the additional spacing mentioned above.

IV. Fire-Walls

(a) Gasoline, Kerosene and Refined Oils

Recent experiments and research* have proved conclusively that these light oils are not subject to any "boil-over" hazard. It is therefore to be expected, and the records demonstrate, that such oils ordinarily burn entirely within their own containers. This is evidenced by Table VIII, from which it is observed that fire-walls were called upon to prevent the spread of fire in but eight cases in 10 years. In 12 other cases fire spread because of the non-existence of fire-walls. Thus fire-walls were effective, or could have been effective, in 10 years in only 120 out of 152 instances. It is conservatively estimated that the 152 light oil tank fires reported represent the fire experience of not less than 50,000 steel-roofed tanks in service. Thus, fire-walls surrounding these 50,000 tanks could have been of practical benefit in only 20 instances—this is a ten-year period—or two per year.

The committee believes that this record of experience demonstrates the injustice of requiring elaborate fire-wall construction and the needless expense caused thereby, for the protection of this class of storage.

(b) Crude Oils

The same experimental work which demonstrated that refined oils were not subject to boil-over, showed this hazard to be present in crude oils. This fact is borne out by the actual fire record of crude tanks as reviewed by the committee.

Table VIII shows that out of 242 crude oil tanks that burned, in 75 instances the fire-walls as constructed and maintained were ineffective in preventing the spread of burning oil. On the other hand, in 56 cases such fire-walls were effective. For fire-walls capable of holding from 100 per cent to 150 per cent of tank capacity, this table shows 46 cases when these walls were ineffective in holding crude oil boil-overs, and 39 cases where such walls were effective. For fire-walls over 150 per cent of tank capacity (and in the following cases cited the capacity was 200 per cent) the table shows ten cases when the fire-wall did not retain the boil-over, and nine cases when it did. These figures clearly demonstrate that capacity alone is not a measure of fire-wall effectiveness.

This statement is confirmed by the experiments conducted by the Standard Oil Co. of California which have been referred to, but these experiments further demonstrate that the design and location of the fire-wall with respect to the tank are items of fundamental importance. The principal factor in design is the inclusion of some form of coping on the top of the wall, projecting inward, the purpose of which is to turn the advancing wave of the "boil-over" back on itself. To obtain full value from such coping, the experiments demonstrated that the fire-wall should be located approximately one diameter from the tank, and in no case nearer than 50 ft. to a tank 30 ft. high.

After carefully considering this evidence, the committee is convinced that fire-walls for crude tanks should be provided with a coping or flare-back as described, and in addition located properly with respect to the tank. With regard to proper capacity for such fire-walls, the committee feels that a minimum capacity equal to that of the crude tank should be provided within such fire-walls unless adequate drainage to a sump of like capacity is provided.

Believing this to be the proper solution of the fire-wall problem for crude tanks, the committee recommends the building of fire-walls as described.

V. Allowance for Fire Protective Systems

The fire spread hazard of oil tanks is unquestionably reduced by the installation of permanent foam systems. The demonstrated efficiency of such equipment therefore justifies a proper recognition by suitable reductions in tank spacing requirements when such installations are made. To this end the committee recommends that the spacing to adjoining property as recommended in Part III be reduced 50 per cent when the oil tanks involved are protected with adequate foam systems. In any case, however, fire-walls should be provided for crude tanks as recommended herein.

*"Safe Oil Storage," December, 1924. Pamphlet issued by Standard Oil Co. (California).

Michigan Jobbers Hold Record Meeting

FLINT, MICH., May 12.—The largest sectional meeting of the Michigan Independent Oil Men's Association from an attendance standpoint that has been held, was the one held on May 7 at Flint, at which 140 were registered, according to James A. Gilmore, field secretary.

One of the speakers at the meeting was B. F. Browne, of the office of the secretary of state, who talked on gasoline tax collection rulings. A resolution was adopted to co-operate with the state secretary's office to facilitate collecting and reporting the tax, and a committee was appointed to wait on the secretary of state this week to discuss certain rulings which are not entirely clear.

After much argument for and against it was decided to seek repeal of the gasoline tax law, and funds for this purpose were authorized to be raised. The coupon interchange problem proved to be too radical a departure to settle in one meeting, and it will be discussed further at the St. Joseph meeting of the association on June 25.

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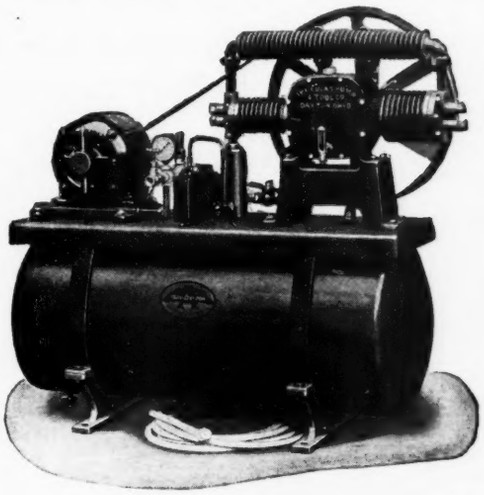

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Think Smackover Outpour of Oil is Nearing Its Peak

BY Special Correspondent

EL DORADO, ARK., May 9

FOLLOWING a series of declines registered during the early part of this week, Smackover production climbed upward today and established a new high record of 395,000 barrels per day. Production of heavy oil from the shallow sand and of light oil from the Louann sand remains fairly constant at 56,000 and 30,000 barrels per day, respectively.

Flush production from the new deep sand around Norphlet reacted downward from the previous high record of 300,000 barrels per day, established on May 2, to a low figure of 267,000 barrels daily, as of May 6; and it was thought for a time that the peak of the boom had been reached and passed. However, such thoughts were dispelled May 7 when a complete survey of the production situation showed a total current production of 309,000 barrels of oil per day from the deep sand.

While there are still more than 265 drilling rigs in actual operation around Norphlet,—to say nothing of forty or fifty new derricks and locations,—competent observers are agreed that the flood of oil probably is approaching its peak, as a slight decline in gas pressure has been noted. On the other hand, however, as indicating the possibility that still greater production may be developed, it must be remembered that the proven area has lately been extended and that from 50 to 75 new deep wells may be completed within the next fortnight.

That the new northeast extension to the productive area may be as prolific as the fertile gusher territory in sections 4 and 9 of township 16-15 is indicated by the recent completion of a 12,000-barrel well by Dashko and others in the SW¼NW¼ of section 34-15-15. This well is located about a quarter of a mile northwest from the Standard Oil Co.'s Powell No. 2, which first extended the field in the northeasterly direction. The Powell well is making around 550 barrels per day.

The Smackover boom definitely marks the turning-point in the Louisiana-Arkansas territory in the modern tendency toward the substitution of steel for wooden oil-field equipment. It is probable that from three eighths to a half of all the wells which have been drilled since the beginning of the deep sand boom are equipped with steel derricks. M. R. Gayle, Louisiana-Arkansas representative of the Lee C. Moore Co., manufacturers of tubular steel derricks, stated to a representative of National Petroleum News today that his company, alone, has sold more than 250 steel derricks for use in the deep-sand campaign. It is probable that there are from 125 to 135 rigs now drilling under steel derricks at Smackover.

The Standard Oil Co. is proceeding with the construction of its new pipe line outlet from Smackover to the Mississippi River. The Shreveport-El Dorado Pipe Line Co., which operates a trunk line from Smackover and El Dorado to Shreveport, has recently entered the market for heavy Smackover crude, having taken over the Atlantic Oil Producing Co.'s six-inch gathering line from 33-15-16 to 31-15-15. A new six-inch line is being laid by the Shreveport-El Dorado company from 5-16-15 to 31-15-15. The Texas Pipe Line Co. is laying a new eight-inch line extending from 25-16-15 to 28-15-15, a distance of approximately six and one half miles.

New Grand Jury Called in Navy Lands Cases

Staff Special

WASHINGTON, May 11.—Atlee Pomerene and Owen J. Roberts, special government counsel in the Elk Hills and Teapot Dome lease matters are expected tomorrow or the next day to begin trying to induce a special grand jury to bring in new indictments accusing those concerned in the lease matters of bribery and conspiracy to defraud the government, the indictments to take the place of those which were quashed because unauthorized persons were in the grand jury room when the former ones were voted. The grand jury was summoned to meet May 12 but it will be at least one day before it can be organized.

The special prosecutors started for new indictments a week ago and were getting along swimmingly until someone called their attention to an allegation that one of the grand jurors had been convicted of violating the Volstead law and that the courts, thus far, had held that such a conviction was of a crime or misdemeanour involving moral turpitude. Membership of such a one in a grand jury invalidates all its work. Inasmuch as the old jury was dismissed it is assumed the allegation was found to be accurate.

Eastern Syndicate Installs Equipment

JAMESTOWN, N. Y.—The Holmes & Weborg Oil Syndicate of this city, which holds a large block of acreage between Tidioute and Grand Valley, all of which has been proven in the fourth sand, is installing a Bessemer rolling power on its Buckley lease. A number of locations will be drilled this summer. A gasoline plant will also be built this summer which will be of Bessemer make, according to O. R. Weborg, manager.

Tonkawa Deep Sand Area Extended West; New Field Near Holdenville

By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, May 9

AMONG interesting developments of the past week was the extension to the north and west of the Tonkawa deep sand area, adding considerably to the proven area, and opening up about a half-mile of territory for development. Other events included discovery of a deep sand, possibly the Wilcox, in the Thomas pool, northwest of Tonkawa, and opening of a new field between Holdenville and the Wewoka pool. Coupled with the towering height to which Smackover production has grown, these developments have given the Mid-Continent oil man something to talk about during the week.

In spite of Smackover's mounting output, the average Oklahoma oil man is much more optimistic in his attitude now than he has been for some time recently. Light oil production continues to decline, in itself a bullish factor, while the gasoline market has been improving steadily for the past two weeks and is entering the high-consumption period in excellent shape as compared with other years. Also, the fact that the Standard Oil Co. of Louisiana went back to its former price for Smackover heavy crude made everything look considerably brighter from the producer's standpoint.

The northwest extension of the Tonkawa deep sand area was brought about through the showing of the Marland-Cosden School land well in the NE¼ of 33-25-1W, and of the Louie Friedman test in the NW¼ of 28-25-1W. The Marland-Cosden well, which is located in the NEc SE NE of the section, is nearly a half-mile west of present Wilcox sand production, and is on a lease which was good for only four wells along the east edge in the shallow sand development. The new well, known as No. 3-A, is adjacent to No. 3, which had initial production of 784 barrels in sand from 2028 to 2049 when originally drilled in. The deep well got the sand at 4277 feet, first oil at 4280 feet, and at 4289 feet, made 1565 barrels the first 24 hours and about the same the second 24 hours. It has been drilled to total depth of 4295 feet.

Locations have been made and operations started for five wells in the immediate vicinity of this well. The Wentz Oil Corp., which has the SW¼ of 34, has made location for its No. 51 McKee, in the first location east of the northwest corner of the quarter-section. This wel will be offest to the north by Comar No. 6-W Beverlin, which is moving in a rig. Comar also has made location for No. 9-W on this farm, in about the SEc NW NW of 344, and for No. 10-W, an east offset to the Marland-Cosden extensioner. Comar's No. 17-W Beverlin has a rig on the ground, in the NWc of 34.

The Louie Friedman well, which is located about a mile west and a half-mile north of Tonkawa deep sand production, has not been completed, but is showing signs of developing into a well, and has created a great deal of interest. This well, known as the No. 1 Siler, is located in the SEc NW of 28-25-1W. It now is reported with a hole full of green oil at 4267 feet, after having topped the sand at about 4248 feet. It is probable that this well has not been drilled into the regular pay horizon yet, so that its full importance cannot be gauged. However, if a good well is made of it, it will mean the immediate starting up of probably 15 wells. The Friedman well showed up surprisingly high structurally, getting the white lime apparently 45 or 50 feet higher than it was found in the Marland-Cosden school land well.

Tonkawa now has 99 deep sand wells, of which 48 are dead or making water, and their production is down to only a little better than 42,000 barrels daily. Most of the producing wells are being swabbed and a few of them are on the pump. Some of those being swabbed flow a time or two following passage of the swab, but have to be swabbed constantly to keep them on production. Pumping these deep wells has not been a great success so far, but efforts to do so are being continued.

Garber Developments

Since the Sinclair Oil & Gas Co. drilled in its No. 25 Belveal, which discovered the Wilcox sand in the Garber field, a month ago, 26 deep sand locations have been made and started up, all within a radius of about a half-mile from the Sinclair well. The Sinclair company, which owns most of the acreage in the field, and has to offset practically every location made, has 11 of these wells under way, Cosden & Marland have started six, Roxana Petroleum Corp. three, Healdton Oil & Gas Co. two, Carter Oil Co. two, Crews Heirs Oil Co., one, and Haley, Garber & Pulse (Whitney farm) one. There are also about 25 wells drilling for the other recently-discovered sand, that was found at around 2300 feet.

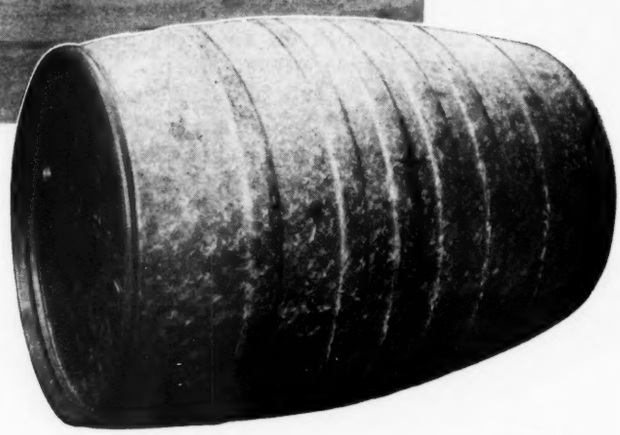
The Sinclair deep well is now 4404 feet, or 27 feet in the sand, which was topped at 4377 feet, having reached that depth as a result of several deepenings since it came in. Its most recent deepening was eight feet, which increased its production from 2450 barrels to 2580 barrels in 24 hours. For the first 28 days after it was drilled in, the well produced 64,920 barrels of 42.1 gravity crude, an average of about 3220 barrels daily.

Thomas Pool Has Deep Sand

In the so-called Thomas pool, opened last year northwest of Tonkawa, and heretofore giving up only average size wells in sand at about 2100 feet, the Marland Oil Co. uncovered a deep sand during the past week. This well, known as No. 2 Thomas, is located in the SEc

Drilling Operations in Oklahoma, Kansas and N. Texas

	May 9—Week Ending—May 2									
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	8	3	38	...	49	...	3	25	14	42
Other Osage	15	23	73	12	123	11	17	78	11	117
Bristow-Cushing	6	32	134	32	204	10	33	130	31	204
North Oklahoma	16	21	100	54	191	12	26	93	57	188
South Oklahoma	7	14	143	61	225	9	20	147	56	232
Muskogee	...	13	26	21	60	...	12	29	21	62
Okmulgee-Bristow	4	64	146	27	241	5	58	165	21	249
Tonkawa	...	3	24	13	40	...	3	25	14	42
Wewoka-Cromwell	19	20	240	17	296	18	21	246	30	315
Total Oklahoma	75	193	924	237	1429	65	193	938	255	1451
KANSAS	89	80	312	117	598	107	80	277	128	592
NORTH TEXAS										
Eastland County	...	1	21	9	31	...	1	21	9	31
Stephens County	...	12	34	30	76	...	12	34	30	76
Texas Panhandle	...	16	30	11	57	...	16	30	11	57
Mexia District	...	22	26	8	56	...	22	26	9	56
E. Texas Wildcats	...	7	10	21	38	...	7	10	21	38
W. Texas Wildcats	...	23	116	80	219	...	23	116	80	219
Wichita Falls	...	67	165	54	286	...	67	165	54	286
Total N. Texas	...	148	404	213	763	...	148	402	213	763
GRAND TOTAL	164	421	1638	567	2790	172	421	1617	596	2806



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SW SW of 15-25-2W, and was dry in the upper sands. It found the deep sand, presumably the Wilcox, at 3955 feet and has been drilled to 3978 feet, where it made 355 barrels of 39.5 gravity oil in the past 24 hours.

New Holdenville Pool

In the Holdenville district, Hughes county, the Gypsy Oil Co. apparently has opened up an important new pool lying east of the Wewoka field and only about three miles north and west of Holdenville. The Gypsy well is known as No. 1 Proctor, and is located in the SWc NE of 35-8-8. It is 29 feet in sand topped at 3256 feet, and at last reports was flowing 65 barrels an hour, or 1560 barrels daily. It had considerable gas in

Completions in Oklahoma and Kansas Week Ended May 9

OKLAHOMA

Alfalfa County

Company	Well No.	Location	Depth	Init. Prod.
Armstrong et al	1	C NW SE NW 23-24-11W	T. D. 3011	Dry

Carter County

Schermerhorn et al	9	SEc SW SW SW 30-2-2W	2115–2775	65
Patsey Kirk	5-A	C NE SE SE 31-2-2W	2095–2680	30
Simpson-Fell	1	C SW SW NE 27-1-3W	T. D. 3465	Dry
Beckland	11	C NW NE SE 34-2-3W	T. D. 2503	Dry
Westheimer	3	CNL NE NW 28-5-1E	T. D. 1145	Dry

Creek County

Roxana	1	SWc NE SW 18-17-8E	2515–2540	30
Cumberland	2	NWc 27-15-10E	2715–2741	25
Texas	3	SWc NE NW 27-15-10E	2615–2636	25
Burk Greis	4	C SE NE 31-14-10E	3472–3490	400
Prairie	9	C SE NW NW 5-16-8E	3488–3518	700
Prairie	8	C SE NW SW 2-15-8E	2441–2499	50
Grieves	3	SE SW SE SW 12-19-8E	T. D. 2437	Dry
Phillips	1	NEc SW NW 32-16-8E	T. D. 4098	Dry
Cole et al	1	NEc SE NE 4-18-11E	T. D. 2473	Dry
Hartman et al	1	NEc SW 35-16-10E	T. D. 3060	Dry
Harman et al	4	CSL NW NE 33-15-10E	T. D. 3235	Dry

Garfield County—Garber

Roxana	15	C NE NW SW 18-22-3W O.W.D.	2304–2319	315
Sinclair	2	C NW NE SE 30-22-3W	T. D. 2796	Dry

Garvin County

T. P. C. & O	2	SWc NE NW 17-1-3W	1673–1698	45
Texas	6	NEc NW NE 17-1-3W	1583–1601	50

Hughes County—Papoose

T. B. Slick et al	1-A	NEc NE NW 2-9-9E	3327–3346	50
T. B. Slick et al	11	C SW SE NW 2-9-9E	3340–3346	20
Independent	6	C NE SW NE 2-9-9E	3335–3358	480
Independent	7	C SW SE NE 2-9-9E	3314–3345	1000
Phillips	3	C SW NE SE 3-9-9E	3275–3293	850
Tidal Osage	8	C SW SW SW 3-9-11E	2885–2912	80
Tidal Osage	7	C NE NW SE 4-9-11E	2955–2978	112
Mid-Kans	4	C NE NE SE 4-9-11E	2926–2932	75
Skelly	2	C NE SW NW 4-9-9E	T. D. 3365	Dry

Kay County—Hubbard

Marland	4	SE NW NE 12-26-2W	2554–2558	98

Kay County—Braman

Comar	1-A	SWc SW NE 21-29-1W	T. D. 870	Dry
Carter	1	C NW NW NE 10-25-2W	T. D. 2445	Dry

Noble County—Tonkawa

Comar	25	C NE SE SW 2-24-1W	4207–4221	444
Blackwell	4-D	C NE NE NW 3-24-1W	T. D. 4366	10

Okfuskee County

Independent	1	NEc SW SW 33-12-11E O.W.D.	3617–3659	500
Tidal et al	1	NWc SW SW 2-11-11E	2596–2614	60
Windsor	1-SEc	NW 22-11-11E	2269–2635	520
Windsor	2	NEc SW 22-11-11E	2540–2549	540
Windsor	3	SEc NE SW 22-11-11E	2482–2503	300

Okfuskee County—Papoose

Carter	8	C NW SE SE 33-10-9E	3305–3347	504
Amerada	3	C SE SW SW 36-10-9E	3339–3379	819 & 20M
Prairie	3	SE SW SW 34-10-9E	3264–3321	310
Kingwood	4	C SW SE SW 35-10-9E	T. D. 4240	Dry
Kingwood	5	C SE SW SW 35-10-9E	T. D. 3365	Dry

Okmulgee County

Misener	9	CSL NE SE 28-15-14E	T. D. 880	Dry
W. B. Pine	2	SWc SW 20-12-14E O.W.D.	2814–2862	120
Smith	3	NWc NE NE 23-14-14E	525–600	¼M
Sheldon	4	C NE NW 34-16-12E	2152–2187	85
T. A. Johnson	1	NEc NW 8-15-12E	T. D. 2670	Dry
Mueller et al	1	NWc 4-15-12E	T. D. 2702	Dry
Newman	1	NWc SE 27-14-12E	T. D. 2908	Dry
Mtn. State et al	1	SEc NW SW 28-13-11E	T. D. 3263	Dry
Campbell	7	NWc SW NW 30-13-15E	T. D. 2025	Dry
Vollentine	2	SEc NW NE 26-15-13E	T. D. 2000	Dry
Berry	1	NWc SE SE 28-16-12E	T. D. 2324	Dry

Osage County

Mid-Co	1	NW SW NW SW 24-21-8E	901–914	12
Barnsdall	5	NW SW NW SE 24-21-8E	1158–1182	10
Tidal Osage	42	NW NE NW 34-22-10E	1182–1212	10
Tidal Osage	7	NW NE SW NW 25-24-8E	2134–2171	15
Atlantic	6	SE SW SW 27-25-8E	2722–2724	560
Texas	12	CWL NE 29-25-8E	2415–2425	56
Plymouth	1	NE SW 33-25-11E	1730–1825	400
Skelton-Moore	6	SE NE SW 32-26-12E	1559–1586	5
Lewis	3	NW NE NE 21-26-6E	2946–2989	570
S. S. Home	1	SW NW NE SE 30-20-11E	T. D. 1936	Dry
S. S. Home	3	C NW NE SW 24-21-9E	T. D. 2672	Dry
Mid-Co	1	NE SE 21-21-10E	T. D. 2110	Dry
D. F. Millard	1	NW SW 12-22-11E	T. D. 2165	Dry
Lawson	11	CWL NW 28-25-8E	T. D. 2708	Dry
Winona	1	NE SW 18-27-12E	T. D. 1845	Dry
Duffield et al	3	SEc 28-28-11E	968–1020	10
Wiser	7	CNW SE NW 27-29-11E	905–952	216
Phillips	2	NW NE NW NE 34-29-11E	976–1007	50

Osage County—Burbank

Phillips	2	C SE SW NE 11-27-5E	2999–3069	250
Phillips	4	SE NE 11-27-5E	2962–3027	500
Phillips	14	NW NE NW NE 11-27-5E	2970–3039	125
Carter	11	C SW NW NE 13-27-5	2982–3026	15
Carter	12	C NE NW NE 13-27-5E	2990–3042	575
Carter	13	C SE NW NE 13-27-5	2965–3020	350
Phillips	11	C SW NE NE 18-28-6E	2948–2967	200

Pawnee County

Steen et al	1-A	NE NE NE 20-20-7E	2640–2657	40
Magnolia	1	C NW SW NE 4-22-3E	T. D. 3365	Dry
Magnolia	3	C SW NE NE 4-22-3E	T. D. 4173	Dry
Magnolia	1	C NW NW SW 9-22-3E	T. D. 4290	Dry
Black Gold	1	SEc SE NW 22-23-4E	T. D. 3804	Dry

Payne County

Flynn et al	1	SEc NW SE 16-17-4E	T. D. 4368	Dry
Magnolia	1	C NE NE 6-17-4E O.W.D.	2112–2120	9M

Pottawatomie County

Maude	1	SEc NE NE NW 18-7-5E O.W.D.	T. D. 2935	Dry

Seminole County—Cromwell

Sinclair	4	C NE SE SE 33-11-8E	3357–3382	10
Sinclair-Gardner	4	C NW NW SW 34-11-8E	3377–3414	750
Carter	4	C SE SW NW 3-10-8E	3365–3452	330
Gypsy-Laurel	5	C SW SW NW 4-10-8E	3420–3451	150
Devonian	1	C NW SW NE 8-10-8E	3437–3480	248

Seminole County—Wewoka

Ramsey	2	C NW NW SE 31-8-8E	3260–3286	1070
Ramsey	4	C SE NW SE 31-8-8	3234–3240	600

Stephens County

Kay Wye et al	4	SEc NE 26-1-9W	1926–2277	250
Pearce-Brown	3	NWc SE 27-1-8W	1682–1695	70

Tulsa County

Shaffer	5	NWc SW 5-19-12E	2007–2057	30
S. S. Home	9	CEL W½ SE NW 5-19-12E	2140–2160	15
Highway	10	SWc NW SE SW 20-19-12E	2107–2156	25
Minshall	3	SWc NW SE 9-18-13E	1206–1226	30
Lillystrand	1	CSL SW SE 34-18-14E	1350–1365	3M
Henry	1	SWc SE SW 25-18-12E	2308–2320	15
Thompson-Black	3	SEc NW NE NW 10-16-12E	1360–1435	35
Gillespie	4	C NW NE 31-19-12E	T. D. 2385	Dry

Wagoner County

Bradley-Smith	2	C SW SW 17-16-16E	T. D. 1700	Dry
Lyons	1	NWc NE SE 18-17-16E O.W.D.	1030–1035	2M
Lorraine	9	SWc NE NE SW 1-17-17E	192–201	20
Metzger	5	CSL SE NW 1-17-17E	200–231	10

KANSAS

Butler County

Vickers	1	NWc NE SW 17-24-4E	2536–2539	150
Ohio Fuel	1	CWL E½ SW 6-25-4E	T. D. 2755	Dry

Chautuaqua County

Denman Bros	1	C SW SW NE 8-34-10E	1490–1510	4

Chase County

Security	1	NEc SW 19-21-9E	T. D. 1793	Dry

Cowley County

Lewis	6	SWc NW SE 31-30-6E	T. D. 2953	Dry
Trees et al	1	SEc SW NW 12-32-6E	T. D. 3415	Dry
W. Phillips-Marland	1	NEc SE 19-33-3E	T. D. 3633	Dry
W. Phillips-Marland	1	NEc NW 29-33-3E	T. D. 3273	Dry
W. Phillips-Marland	1	NEc 30-33-3E	T. D. 3347	Dry
Phillips	21	NWc NE SW SE 17-35-7E	T. D. 1895	Dry
Roth et al	5	NEc NW 4-30-8E	2082–2115	50
Marland-Neely	3	NWc SW NE 13-32-4E	2569–2574	150

Cowley County—Graham

Roxana	1	NEc NW SE 9-33-3E	3509–3512	250
Phillips	24	SEc SW SE SE 17-35-7E	2022–2086	25

Elk County

Superior	1	SEc NW 29-29-13E	T. D. 2037	Dry

Greenwood County

Titus et al	1	NWc 29-22-10E	2350–2370	300
Empire	4	NWc SW 11-22-11E	1864–1895	240
Empire	4	NEc NW NE 14-22-11E	1834–1907	570
York State	9-A	NEc SE SW 32-22-11E	1927–1968	250
Transcontinental	5	NEc NW SE 2-23-9E	2389–2398	75
Transcontinental	6	C N½ S½ 2-23-9E	2330–2348	200
Greenland	3-A	NEc SW NE 2-23-9E	2405–2429	100
Skelly-Emerald	3	SWc SE SW 10-23-9E	2358–2387	100
Phillips	2	NEc SW SW 15-23-9E	2335–2393	200
Phillips	8	SEc NW SE 13-23-10E	2055–2116	25
Mid-Kansas	21	SWc SE NE 23-23-10	2062–2118	100
Mission-Roth	47	CNL S½ N½ SW 28-23-10	2337–2398	75
Mid-Kans	20	NEc NW SE 31-23-10	2306–2384	150
Gt. Southern	5	SWc NE SW 32-23-10	2307–2317	20
Mission	7	SEc NW SW 32-23-10	2291–2334	70
Tidal	8	NEc SE 15-23-13E	1801–1827	20
Ark. Fuel	7	SWc NW SE SW 1-23-9E	2292–2336	150
Rogers-Mission	6	SEc NW NW 23-23-9E	2127–2201	100
Rogers-Mission	7	CEL NW NW 23-23-9E	2137–2168	108
Houston-Okla	10	SEc NW SW 14-24-12E	1741–1767	50
Griggs	1	NEc NW 7-25-9E	2192–2206	75
Mid-Kans	5	SWc SE NW SW 30-25-9E	2418–2478	100
Pierce et al	1	NWc SW SW 23-26-9E	826–827	1M
Davis et al	3	NEc NW SW 7-22-11E	T. D. 2225	Dry
Skelly	1	SWc NE 36-22-12E	T. D. 2177	Dry

Lyon County

Swartz et al	2	SWc SE SW 31-21-12E	1889–1916	30

Marion County

Garden et al	1	SWc 9-21-4E	T. D. 2453	Dry

top of sand, and got first oil at 3264 feet.

The Gypsy Oil Co. has made three locations in the vicinity, all on the Proctor farm in the NE of 35. Its No. 2 Proctor will be in the NWc SW NE, and No. 3 will be in the SEc SW NE, these being a quarter-mile north and east, respectively, of the discovery well. The Gypsy discovery is a northeast diagonal offset to the Johnson & Ashe No. 1 Jefferson, in the NEc SW of 35, which was drilled to 3206 feet some time ago, has been making large amounts of gas, but the completion of which has been delayed by complicated fishing jobs. It is reported that J. W. McCulloch, of Okmulgee, who recently resigned as vice-president of the Independent Oil & Gas Co., has taken over the Johnson-Ashe property, comprising the NE SW of 35, and will try to complete the well. He also acquired a half interest in the NE NE of the same section, from Harry H. Diamond, of Holdenville. The Independent Oil & Gas Co. owns the other half interest.

Independent Oil & Gas Co. has made four locations on its 40 acres in the SE NW of 35. Its No. 1, a west offset to the Gypsy well, will be in the southeast corner, No. 2 in the southwest corner, No. 3 in the northeast corner, and No. 4 in the northwest corner. Roxana Petroleum Corp. has made a location in the NWc SE of 35, a south offset to the Gypsy well, and Houston Oil Co. has made one in the SEc NE of the same section. In the next section west of the Gypsy well, the Prairie Oil & Gas Co. is rigging up standard tools in its No. 1 Carter, in the SE NE SE of 34-8-8. This well was drilled with rotary to 3125 feet, where it was cemented.

Cromwell Developments

In the Cromwell field, the Wilcox sand appears definitely "blown up" since the Roxana Petroleum Corp. drilled into it and found a hole full of water in its No. 1-A Berryman, in the SEc NE NW of 10-10-8. This well got the top of the Wilcox at 4216 feet, drilled into it 10 feet, found the water, and will probably be abandoned. This unfavorable showing, coupled with a similar one in the Shaffer Oil & Refining Co. deep well which was plugged and abandoned, makes it appear that the Wilcox carries no oil in commercial quantities under the Cromwell field. One or two other wells that were drilling to the Wilcox have been shut down and probably will be abandoned without going on down.

A large number of north end wells are drilling at Cromwell, and probably will start coming in in bunches in about four weeks. If they are as good as preliminary wells indicate, the field probably will show a large increase in production at that time, although in the meantime its production probably will have fallen considerably below its present figure. The field is now making about 41,700 barrels, from 349 wells, and may get down to around 35,000 before the new wells start coming in. It is unlikely that even the new crop of wells will be able to push its production up higher than 50,000 barrels, which would still be 15,000 barrels under its peak of last summer.

Current Production

Oklahoma production again declined during the past week, going off 2040 barrels to an estimated daily average of 445,160 barrels. The largest loser among the active fields was Burbank, which dropped 2085 barrels to 56,100 barrels daily. This field now has 1722 wells, a gain of four over the preceding week. The Osage county side of the field is producing 44,525 barrels from 1527 wells, while the Kay county side has 195 wells producing 11,575 barrels.

Tonkawa was the next largest loser, dropping 1425 barrels, and averaging 60,250 barrels daily. This field now has 762 wells, a gain of two over the preceding week. Of these, there are 99 deep wells, which averaged 42,300 barrels daily during the week. Cromwell reported 349 wells, a gain of five, and held almost stationary in production, declining 255 barrels to 41,700 barrels daily. Papoose was even more nearly stationary, as it increased its output only 140 barrels to 24,490 barrels daily. It reported 164 wells, a gain of three. Wewoka had 123 wells, an increase of three, and held its production up, increasing 150 barrels to 13,850 barrels daily.

Among the lesser lights, Stroud, with 70 wells, the same as the week before gained 81 barrels in production, averaging 3304 barrels a day. Weleetka averaged 1975 barrels, a loss of 15 barrels, and had 31 wells, a gain of three. Braman had 13 wells, the same as the preceding week, and averaged 2495 barrels daily, a loss of 52 barrels. This field is in 29-1W, northwestern Kay county. The Hubbard field, also in northwest Kay county, gained 180 barrels and averaged 2205 barrels daily, from 14 wells. In Western Pawnee county, the Watchorn field gained 1080 barrels and showed a daily average of 6760 barrels, from 12 wells.

Kansas recorded a substantial increase in production the past week, going up 6360 barrels to a daily average estimated at 95,610 barrels. The principal factor in this increase was the prolific Rainbow Bend area in Cowley county, which had several large wells added to its list during the week, and jumped 5960 barrels to 17,230 barrels daily.

In Oklahoma, during the week just closed, 113 wells were completed, of which 69 were oil wells, five were gas wells, and 39 were dry holes. This is an increase all along the line as compared with last week, when there were 86 completions, divided 50 oil wells, six gas wells, and 30 dry holes.

The 69 oil wells included in this week's report had a total initial production of 16,348 barrels, giving them an average per well of 236.9 barrels. Last week, 50 wells brought in 12,662 barrels of new production, with a per-well average of 253.2 barrels.

Completions reported from Kansas this week totaled 42, of which 29 were oil wells, one was a gas well, and 12 were dry holes. Last week, there were 41 Kansas completions, divided 33 oil wells and eight dry holes. The 29 oil wells included this week had a total initial output of 3737 barrels, or an average of 128.9 barrels per well. Last week, 33 wells brought in 3483 barrels of new production, giving them a per-well average of 105.5 barrels.

Bement Well on Pump

The Bement Oil Co. well in 30-23-5E, Pawnee county, which created so much interest several weeks ago, has been put on the pump after having been drilled to 2780 feet. Apparently the sand was broken in character and deeper drilling did not have the expected effect of increasing the production materially. In the first 24 hours the well pumped about 253 barrels. In the territory north of the Bement well, disappointing results have been obtained in two wells being drilled by Haley, Garber & Pulse, and recently reported as being on top of the Bartlesville sand. These operators' No. 1 Beck, in the NE SW of 5-23-5, had sand from 3168 to 3176 feet, but it was dry. It is drilling ahead and will go to the Mississippi lime. The same operators' No. 1 Phillips, in the SE NW NE of the same section, had two sands, the upper from 3167 to 3195 feet, which swabbed 25 barrels but did not fill up with oil, and a deeper one from 3268 to 3303 feet, with a showing of oil. This sand was shot with 50 quarts, but after the shot it was making 12 barrels of water daily and only a small amount of oil. They were planning on shooting the upper sand at last reports.

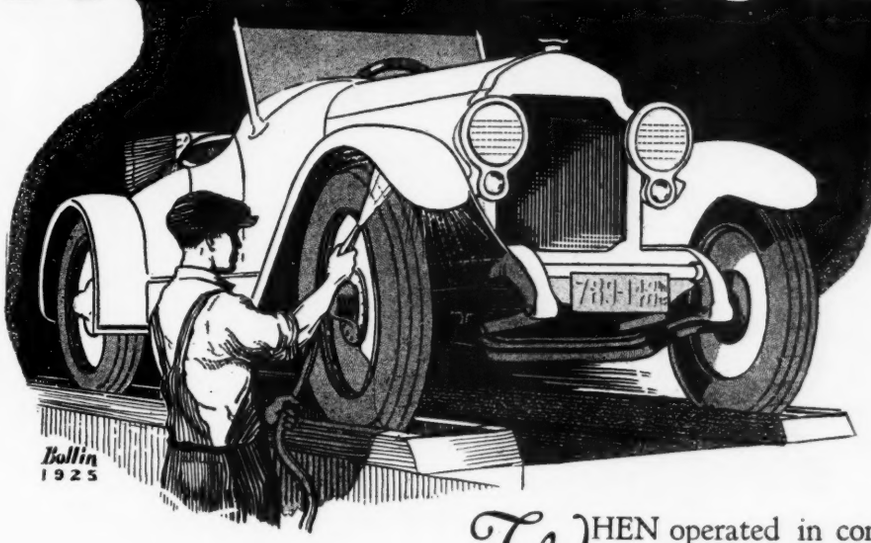
Russell County, Kansas

In Russell county, western Kansas, considerable activity has followed the recent discovery of a second pay below the Oswald horizon, a number of wells having drilled down for this pay, with varying results.

Gulf Coastal Texas Completions, Week Ended May 9

Company	Lease—Well	Field	Depth	Prod.
Humble Oil & Refining Co.	Schade 2	South Dayton	3600	1000
Humble Oil & Refining Co.	Pickett "B" 3	South Dayton	3750	Aband.
Gulf Production Co.	Schade 3	South Dayton	3530	300
Oxford Oil Co.	Harrison 6	South Dayton	3500	200
Oxford Oil Co.	Harrison 8	South Dayton	3640	200
Humble Oil & Refining Co.	Chesson "A" 15	Orange	3180	400
Sun Oil Co.	Wright 3	Goose Creek	2540	25
Southern Exploration Co.	Wright 11	Goose Creek	1900	15
Gulf Production Co.	Davis 20	Big Creek	3750	850
The Texas Co.	Lingua 1	Big Creek	4440	Aband.
Ada Belle Oil Co.	Levitt & Davis 94	Batson	1005	20

Klean-Rite AUTO LAUNDRIES



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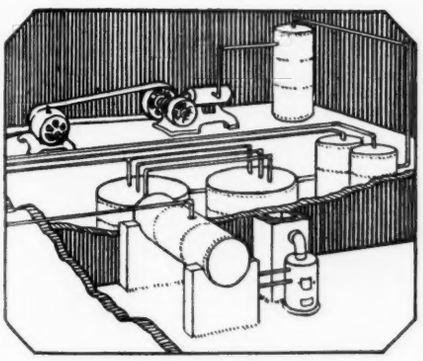
You can get 75% of the washing business in your community with a KLEAN-RITE Auto Laundry system. At a total cost of 87c per car, you can easily figure what your profit would be. The ordinary slop-wash at garages is no competition to a KLEAN-RITE System.

If you are looking for a way to boost your station profits, be sure to investigate the KLEAN-RITE Auto Laundry. You incur no obligation by obtaining complete information. Write for it now. KLEAN-RITE franchise are being rapidly assigned. Only one franchise is granted in a specified territory.



We install complete compressor plant, soap mixer, water tanks, soap and solvent tanks; build all pits, supply and connect all pipes, hose and nozzles. Also supply formulas and materials. Your plant is ready to run.

This trade mark is prominently displayed on a large metal sign, at licensed KLEAN-RITE stations. It also appears in the local newspaper ads and other forms of publicity which our Promotional Department provides franchise owners. With KLEAN-RITE stations being rapidly established in all parts of the country, this trade mark will give valuable prestige to KLEAN-RITE operators, as it will have a national significance.

Klean-Rite
AUTO LAUNDRY CO.

1710 East 75th Street **Chicago. Ill.**

Protected and Licensed Under U. S. Patent No. 1502115

Completions in North Louisiana and Arkansas, Week Ended May 7

LOUISIANA

Caddo Parish

Company	Well	Location	Depth	Yield
Fortuna Oil Co.	Doan-Thigpen No.14	5–20–15	2220	15
Cotton Valley—Webster Parish				
Ohio Oil Co.	Bodcaw No. 30	27–21–10	2545	100
Ohio Oil Co.	Cox No. 2	15–21–10	2550	300
Woodley Pet. Co.	Gray No. 1	26–21–10	2565	150
Bellevue—Bossier Parish				
T. R. Boger et al.	Atkinson No. 2	3–18–12	1160	s. w.
Natchitoches Parish				
R. O. Roy	C. M. Durr No. 1	27–10–10	2523	dry
De Soto Parish				
Greyhound Syndicate	Pollock No. 1	36–11–14	3305	s. w.
Sabine Parish				
Flo-La. Oil Co.	Walker No. 1	8–5–12	2535	s. w
Caddo Parish—Ferry Lake				
Gulf Refining Co.	Ferry Lake No. 69	14–20–16	2796	dry
Gulf Refining Co.	Ferry Lake No. 222	16–20–16	2285	20
Claiborne Parish—Homer				
Gulf Refining Co.	Langston No. 10	24–21–18	1217	25

TEXAS

Waskom—Harrison County

Cox et al.	Abney No. 1	E.M.Jenkins HRS	1960	15 m gas
Panola O. & G. Co.	Mullin No. 1	E.Little HRS	1905	12 m gas
Waterman Drilling Co.	Gainer No. 1	J.J.Vlair HRS	1913	30 m gas

ARKANSAS

Nevada County

Ames et al.	Womack No. 3	10–14–21	1202	100
Ames et al.	Womack No. 4	10–14–21	1190	100
Stephens				
Magnolia Pet. Co.	Hammond No. 7	25–15–20	2153	10
Smackover				
Bray-Hawthorne Oil Co.	Copenhaven No. 1	13–15–17	2530	s. w.
H. E. Clark	Shirey No. 2	36–15–17	2317	25
Home Refining Co.	Berg No. 1	27–15–17	2402	30
La. Oil Refining Co.	Bland No. 1	27–15–17	2315	40
La. Oil Refining Co.	Bland No. 2	27–15–17	2332	35
Whittaker et al.	Berg No. 1	27–15–17	2400	50
Whittiken et al.	Anderson No. 6	23–15–17	2382	30
Ark. Fuel Oil Co.	Snyder No. 4	34–15–15	1983	30
Forrest Oil Co.	Arnold No. 1	26–15–16	2075	100
Invaders Oil Co.	Hardin No. 2	22–15–16	2080	80
Miles et al.	Neeley No. 2	26–15–16	2060	35
Simms Oil Co.	Berg E-4	30–15–15	2015	15
Standard Oil Co.	Powell No. 2	34–15–15	2382	1000
Standard Oil Co.	Umstead No. 7	32–15–15	2400	2500
Standard Oil Co.	Umstead No. 4	32–15–15	2375	5000
Amerada Pet. Co.	Flenniken No. 5	6–16–15	2390	2500
Ark. Fuel Oil Co.	Murphy No. 3	8–16–16	2638	60
Carrigan et al.	Hill No. 1	5–16–15	2295	dry
Dail et al.	Le Croy No. 2	17–16–15	2492	2500
Eason et al.	Palmer No. 3	9–16–15	2495	400
George & Jones	Umstead No. 2	4–16–15	2390	1000
Houston Oil Co.	Fogg No. 1	8–16–15	2655	s. w.
Leon et al.	Berg No. 4	4–16–15	2360	2000
Lion O. & R. Co.	Lawton A-6	10–16–15	2405	800
Lion O. & R. Co.	Hardy-Murphy No.2	9–16–15	485	junked
Lion O. & R. Co.	Hardy-Murphy No.4	9–16–15	1875	s. w.
Magnolia Pet. Co.	Freeman No. 1	7–16–16	2648	30
Marine Oil Co.	Hays No. 5	4–16–15	2360	2000
Mazda Oil Co.	Lawton B-2	10–16–15	2430	3000
Natural Gas & Pet. Co.	Bilyew No. 1	9–16–15	2365	200
Natural Gas & Pet. Co.	Bilyew No. 3	9–16–15	2420	2000
Natural Gas & Pet. Co.	Hill A-3	5–16–15	2370	800
Natural Gas & Pet. Co.	Murphy No. 7	8–16–15	2515	1500
Natural Gas & Pet. Co.	Murphy E-2	9–16–15	2475	2500
Natural Gas & Pet. Co.	Murphy F-3	9–16–15	2480	1200
Ohio Oil Co.	Pate No. 7	10–16–15	2385	7000
Pure Oil Co.	Bilyew No. 2	8–16–15	2365	800
Rogers et al.	Le Croy No. 3	17–16–15	2465	2500
Roxana Pet. Co.	Bilyew No. 1	9–16–15	2415	700
Simms Oil Co.	Cook No. 7	16–16–15	2470	1000
Standard Oil Co.	Alphin No. 18	3–16–15	2380	3000
Standard Oil Co.	Alphin No. 20	3–16–15	2385	10,000
Sun Company	Hatfield No. 5	6–16–15	2383	300
Sure Oil Co.	Flenniken No. 4	5–16–15	2390	600
Texas Oil Co.	Calloway No. 4	4–16–15	2350	2500
Unity Pet. Co.	Roper No. 8	3–16–15	2375	1000
Wright et al.	Hodges No. 2	1–16–17	2265	dry
Matthews et al.	Teel No. 1	11–19–12	2665	s. w.
Gulf Refining Co.	John Berry No. 7	8–16–15	2370	300
Gulf Refining Co.	Le Croy No. 6	16–16–15	2495	10,000
Gulf Refining Co.	Murphy Hardy No.15	5–16–15	2370	600
Gulf Refining Co.	Murphy Hardy No.16	4–16–15	2365	1200
Gulf Refining Co.	G.E.Murphy No.4	8–16–15	2390	3000

Completions in North and Central Texas, Week Ended May 9

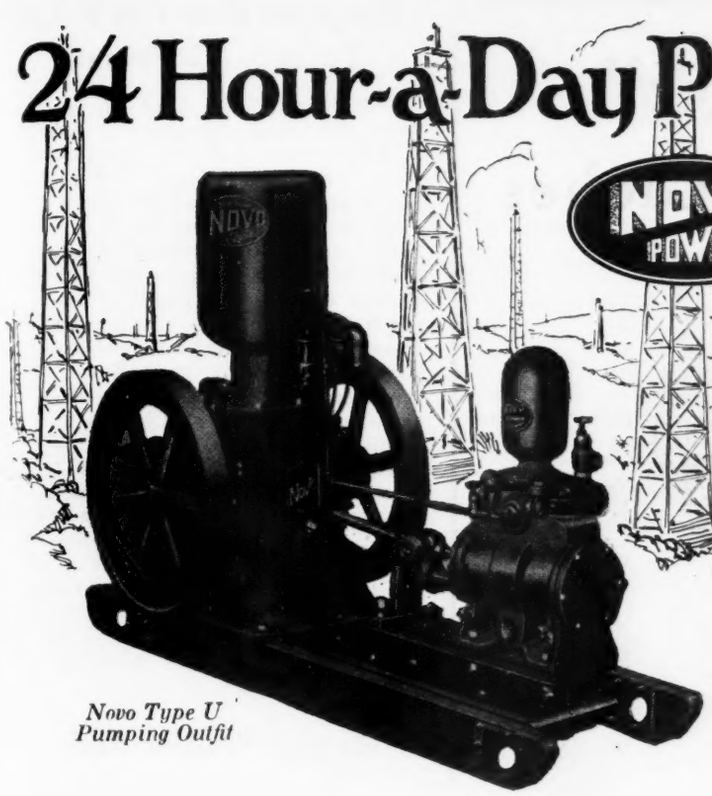
Archer County

Company	Well Farm	Descrip.-Survey-Section	Depth	Initial Prod.
Riner-Bailey	12 Wilson	A. T. N. C. 29	1617–1621	100
Atlantic	7 Parrish	H. & T. C. 26	1561–1567	75
Christie Bros.	4 Richardson	S. A. R. 10	1285–1302	75
McKnight et al.	1 O'Donnell	Crawford 14	1276–1286	20
White Bros.	10 Kunkle	B. S. & F. 1	1135–1159	750
White Bros.	11 Kunkle	B. S. & F. 1	1147–1160	10
British-Amer.	8 Rogers	T. E. & L. 2400	1279–1284	20
Fisher-Gilliland	50 Rogers	T. E. & L. 2407	1337–1347	125
Gilliland et al.	5 Rogers	T. E. & L. 2400	1275–1283	15
Gulf Prod. Co.	7 Rogers	T. E. & L. 2406	1298–1309	30
Magnolia Pet.	1 B. Rogers	T. E. & L. 2407	1327–1355	53
Magnolia Pet.	7 Stampfli	T. E. & L. 2408	1327–1347	165
Magnolia Pet.	1 Wilburn	T. E. & L. 1597	1317–1329	65
Shaw-Rathke	4 B. Hayter	T. E. & L. 1598	1319–1329	85
United Central	6 Rogers	T. E. & L. 2407	1331–1351	85
United Central	7 Rogers	T. E. & L. 2407	1324–1341	50
Continental	11 Harmel	T. E. & L. 2401	1246–1248	7
Hart et al.	7 Roach	T. E. & L. 1594	1230–1237	10
Shaw-Rathke	9 Hausler	Hardaway	1135–1148	35
Humble	1 Parkey	A. T. N. C. 1	T.D.1883	Dry
United Central	1 Wilson	O'Reilly	T.D.1735	Dry
Cooper-McLaughlin	1 Seay	Harris 110	T.D.1803	Dry
Sun Oil	3 Taylor	S. P. 12	T.D.1500	Dry
Jennings	1 Scott	McCoy 15	T.D.1269	Dry
Staley-Wynn	1 Bloodworth	B. B. B. & C. 11	T.D.1265	Dry
Shaw-Rathke	3 B. Hayter	T. E. & L. 1596	T.D.1365	Dry
Continental	12 Harmel	T. E. & L. 2401	T.D.1316	Dry
Shaw-Rathke	1 Monahan	T. E. & L. 1599	T.D.1330	Dry
Mid-Kansas	1 Lowe	Crawford 3	T.D.1406	Dry
Texhoma	1 Hamilton	B. B. B. & C. 5	T.D.1351	Dry
Sun Oil	4 Kunkle	Hardaway	T.D.210	Dry
Baylor County				
Grebin-Sullivan	1 Anderson	T. E. & L. 2484	T.D.1710	Dry
Brown County				
Prairie	9 Newton	Miller	T.D.1287	205
Freestone County				
Humble	17 Dodd	Ritchie	2992–3043	60
Quaker	1 Goodnite	Wortham	T.D.3090	Dry
Montague County				
Texhoma	1 Lemmons	Little	720– 724	3M
Navarro County				
Strouble	1 Hill	Smith	2828–2935	200
Tidal	5 Bush	Smith	2898–2956	125
Humble	19 Irvine	Taylor	1581–1634	20
Humble	16 Kent	Smith	1590–1631	200
Pure	15 Kent	Smith	1580–1652	20
Gulf	1 Green	Simonton	T.D.3200	Dry
Kent	15 Kent	McNeil	T.D.3012	Dry
Palo Pinto County				
Cameron-Anderson	2 Pollard	Ashworth 43	T.D.1701	Dry

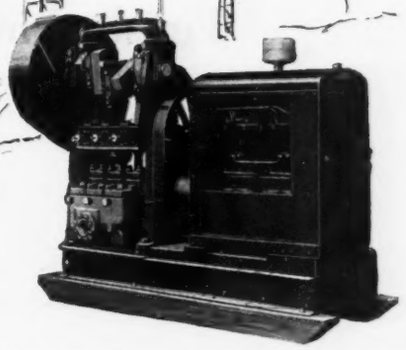
Shackelford County

Company	Well Farm	Descrip.-Survey-Section	Depth	Initial Prod.
Landreth	1 Kendrick	B. A. L. 20	T.D.1001	Dry
Hyde-James	1 Moberly	T. P. 13	T.D.1280	Dry
Stephens County				
Berkley et al.	1 Prichard	T. & N. O.	3535–3544	3600
T. P. C. & O.	51 Binney	Ashworth 57	1885–1904	75
Mid-Kansas	15 Hill	S. P. 20	3255–3275	30
T. P. C. & O.	3 Smith	T. P. 66	T.D.2010	Dry
Knox-Lewis	1 Florney	T. P. 33	T.D.3870	Dry
Sun	7 McMeen	T. P. 47	T.D.2185	Dry
T. P. C. & O.	6 Rogers	T. P. 7	T.D.3294	Dry
Pender	3 Davis	T. E. & L. 2083	T.D.3346	Dry
Snowden et al.	5 Higginbotham	L. A. L. 1	T.D.3230	Dry
Throckmorton County				
McNeal-McGee	1 Travis	Travis	T.D.2018	Dry
McNeil	1 Davis	Haggard	T.D.1450	Dry
Panhandle	1 Marlin	T. E. & L. 3015	T.D.1601	Dry
Michem-Logan	1 Horton	T. E. & L. 3082	T.D.1600	Dry
Texas	1 Smythe	T. E. & L. 3020	T.D.3490	Dry
Stiles et al.	1 Reynolds	Tartar	T.D. 494	2M
Wichita County				
Fowler	1 Gaston	Aldridge	T.D.1650	Dry
Stedham-Thrasher	3 Daume	S. P. 1	T.D.1850	Dry
Maer Stanforth	1 Waggoner	G. G. & S. F. 1	1701–1806	12
Wilbarger County				
Humble	14 Castleberry	H. & T. C. 83	1275–1298	85
Humble	15 Castleberry	H. & T. C. 83	1273–1305	200
Humble	17 Castleberry	H. & T. C. 83	1232–1240	4M
Humble	17 Stephens	H. & T. C. 83	1267–1307	125
Winnipeg	7 Bond	H. & T. C. 100	2281–2304	250
Atlantic	1 Waggoner	H. & T. C. 51	1414–1427	66
McCamey-Sherrin	1 Waggoner	H. & T. C. 60	1270–1307	40
Upham Gas	1 Waggoner	H. & T. C. 47	T.D. 490	Dry
Wise County				
Clifford	1 Hunt	S. L.	T.D. 750	Dry
Michigan	1 Young	Ritchie	T.D.2560	Dry
Young County				
Norton et al.	5 Hamilton	Holeman	T.D.1215	Dry
Camp	1 Campbell	T. E. & L. 1483	T.D. 964	Dry
Burns-Maxon	1 Wilburn	T. E. & L. 84	T.D.1380	Dry
Daniels-Rutis	1 Keith	T. E. & L. 267	T.D.1322	Dry
Moores et al.	2 Ickert	Holeman	1209–1221	75
Norton et al.	4 Hamilton	Holeman	1198–1210	280
Gulf	3 Hamilton	Holeman	1189–1191	25
Humble	8 Schlegel	B. B. B. & L. 1	1180–1186	80
Humble	9 Schlegel	B. B. B. & L. 1	1162–1164	50
Humble	11 Schlegel	B. B. B. & C. 1	1184–1193	75
Humble	12 Schlegel	B. B. B. & C. 1	1174–1192	100
Murchinson-Fain	14 Schlegel	B. B. B. & C. 1	1200–1208	75
Texas	15 Gambril	B. B. B. & C. 1	1211–1229	175
Texas	19 Gambril	B. B. B. & C. 1	1216–1235	230
Texas	21 Gambril	B. B. B. & C. 1	1196–1214	66
Texas	23 Gambril	B. B. B. & C. 1	1200–1213	190
Texas	24 Gambril	B. B. B. & C. 1	1202–1214	183
Murchinson & Fain	3 Campbell	T. E. & L. 236	980–992	80

24 Hour-a-Day Pumping Service



Novo Type U Pumping Outfit



Novo Triplex Pumping Outfit with Novo 40 H. P. Engine. Capacity, 43 gallons per minute at 1000 pounds pressure. A large, heavy duty outfit.

YOU must have a dependable water supply for your drilling operations.

You may have to bring your water two or three miles; you may have to pump against a stiff elevation.

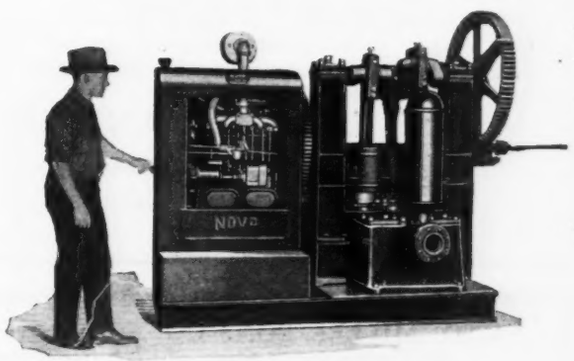
Novo Pumping Outfits deliver 24-Hour-a-Day Service week after week. They do this easily and do it well.

With little attention other than the supplying of fuel and oil, Novo Pumping Outfits deliver service as dependable as steam pumps and at much less cost.

Sooner or later you will be convinced that these sturdy units are the most economical and dependable means of supplying water for your job.

It will pay you to get in touch with us now and be prepared when an emergency arises.

Novo Type W Pumping Outfits. Powered with Novo Single, Two and Four Cylinder Industrial Engines (6 to 18 H.P.). Capacities from 13 to 130 gallons per minute. Pressures from 120 to 800 pounds per square inch.



Novo Triplex Pumping Outfits. Powered with Novo Single Two and Four Cylinder Industrial Engines (4 to 40 H.P.). Capacities from 18 to 200 gallons per minute. Pressures from 150 to 250 pounds per square inch.

NOVO ENGINE CO.
Clarence E. Bement, Vice-Pres. & Gen. Mgr.
LANSING — MICHIGAN
Cable Address "NOVO LANSING"
Distributors Throughout the World

SUCCESSFUL POWER

NOVO POWER
Keeps Operations Moving

ENGINES
Single Cylinder, 1½-10 H.P. (frost proof)—two cylinder, 6-12 H.P.—four cylinder, 12-40 H.P.

HOISTS
Single and double drum—one and two speed and reversible, portable heavy duty types—powered with Novo Engines

NOVO POWER

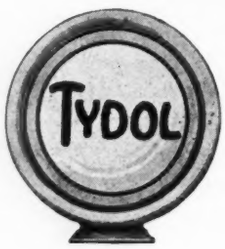
PUMPS
Open and closed top diaphragm—centrifugal—deep well—single, duplex double acting and triplex pressure pumps.

COMPRESSORS
Three sizes up to 170 cubic feet—with steel housings—mounted on trucks. Combination hoists and compressors

"Hull Process"

Refillable Pump Globes

Finished in 5 Designs



"HULL PROCESS" means that the glass used in the manufacture of our pump globes is roughened on the inside surface and that our specially prepared colors are pressed and baked into this rough glass, which prevents the lettering and background from cracking, chipping or peeling off.

We Manufacture Also

Vitro-White Opal Globes (canteen or round) all sizes. Electric Swinging Signs for Filling Stations (glass or metal faces), sizes 2′ x 3′; 3′ x 5′; and 3′ x 6′ with complete outrigger.
Wall Hangers with or without globes.
Wall Brackets with or without globes.
Curb signs with or without steel disc or globes.
"Stand Up" Drive in filling station signs.

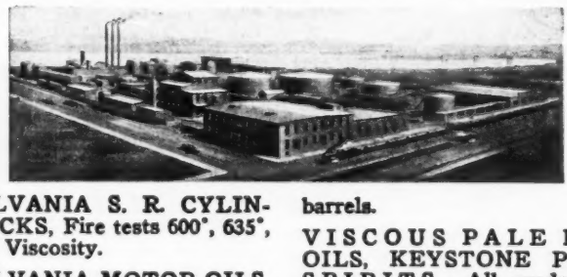
HULL SIGN AND MFG. CO.

400 East North Ave.

PITTSBURGH, PA.

A. D. MILLER SONS CO. ***Pittsburgh, Pa.***

Producers and Refiners of High Grade Pennsylvania Oils



PENNSYLVANIA S. R. CYLINDER STOCKS, Fire tests 600°, 635°, 650° High Viscosity.

PENNSYLVANIA MOTOR OILS, Blended to suit Jobbers specifications, In tank cars, steel drums, wooden barrels.

VISCOUS PALE NEUTRAL OILS, KEYSTONE PAINTERS' SPIRITS. All grades WATER WHITE OILS, MINERAL COLZA, GASOLINES, etc.

Cable Codes: Western Union (Universal) ABC (4th and 5th Edition, Private Codes) Established 1862

Proposes Rate Cut From Tulsa to Cincinnati

WASHINGTON, May 12.—A proposal that the Interstate Commerce Commission break down refined oil rates from Tulsa and Wichita Falls, which would necessarily mean the whole Mid-Continent to Cincinnati, which of course would mean the whole of Ohio, was made to that body today by Examiner Burton Fuller on a complaint by Proctor & Gamble that the rates on naphtha from Tulsa and Wichita Falls to the soap makers' plant in Cincinnati were unreasonable and unduly prejudicial to their competitors near Chicago and St. Louis.

He said the rates should be cut to 46 and 48.5 cents per 100 pounds respectively. But he said that the recommendation should not be taken to justify rates on naphtha lower than other refined oils. He made his recommendation so as to bring the rates to Cincinnati down in sympathy with the recent reduction to the whole of Indiana.

Bureau Studies Action On Crankcase Oil

WASHINGTON, May 11.—An exhaustive inquiry into the causes for what happens to the lubricating oil put into an automobile is being carried on by the automotive power plant of the Bureau of Standards, under the supervision of T. S. Sligh, in charge of that kind of work. The bureau is working on a program worked out by the Bureau and the Society of Automotive Engineers, the latter moving in the matter at the suggestion of a number of manufacturers of well known automobiles with the end in view of making charts and indices as to the things that happen, under various conditions, to the oil, to the cylinder walls, piston rings, crank shafts and other parts the lubrication of which is of vital necessity.

The bureau is at work on samples of oil taken from automobiles in service in different cities where there are such differences of climatic conditions as to suggest differing reactions upon the same oils, because of dust, dilution and water.

The execution of the program is well under way. That, however, does not mean there will be any reports on it this month, the next or any definite time. The object is to have tests made of oils used under the differing conditions of winter and summer. The samples that have been taken, it is feared, are not typical winter samples so that the work may go on for nearly a year to the end that there will be no question about the value of the work relating to winter conditions.

It may be reports about summer condition results will be published ahead of the reports on winter samples. That, however, is one of the things to be decided hereafter, when the work is farther along.

Neutral Oils

GULF COAST

200 Vis. No. 2-2½ Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

300 Vis. No. 2-2½ Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

500 Vis. No. 3 Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

750 Vis. No. 3-3½ Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

200 Vis. No. 4½-5½ Color Unfilt. Red
Keen & Woolf Oil Co., Houston, Texas

300 Vis. No. 4½-5½ Color Unfilt. Red
Keen & Woolf Oil Co., Houston, Texas

500 Vis. No. 4½-5½ Color Unfilt. Red
Keen & Woolf Oil Co., Houston, Texas

750 Vis. No. 4½-5½ Color Unfilt. Red
Keen & Woolf Oil Co., Houston, Texas

1200 Vis. No. 3½-4 Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

2000 Vis. No. 3½-4½ Color Unfilt. Pale
Keen & Woolf Oil Co., Houston, Texas

120 Vis. Black
Keen & Woolf Oil Co., Houston, Texas

210 Vis. Transmission Lube.
Keen & Woolf Oil Co., Houston, Texas

ILLINOIS

180 Vis. No. 3-3½ Asso. Filt.
Indian Refining Company, Lawrenceville, Ill.

180 Vis. No. 5 Asso. Filt.
Indian Refining Company, Lawrenceville, Ill.

OHIO

90 Vis. at 100° F. No. 2 Color (Pale)
Craig Oil Co., Toledo, O.

200 Vis. at 100° F. No. 3 Color (Pale)
Craig Oil Co., Toledo, O.

OKLAHOMA

200 Vis. No. 3 Color
Bell Oil & Gas Co., Tulsa, Okla.

PENNSYLVANIA

150 Vis. No. 3 Asso. Filt.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Seneca Oil Works, Warren, Pa.

150 Vis. No. 4½ Filt. (Red)
Crystal Oil Works, Oil City, Pa.

180 Vis. No. 3 Asso. Filt.
Emery Mfg. Co., Bradford, Pa.
Seneca Oil Works, Warren, Pa.

200 Vis. No. 3 Asso. Filt.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Empire Oil & Grease Co., Inc., Oil City, Pa.
Seneca Oil Works, Warren, Pa.

Cylinder Oils

PENNSYLVANIA

600 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Crystal Oil Works, Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
Lucinda Refining Co., Lucinda, Pa.

635 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Emery Mfg. Co., Bradford, Pa.

650 Steam Refined
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Levi Smith Refining Co., Clarendon, Pa.
McKean County Refining Co., Bradford, Pa.
Seneca Oil Works, Warren, Pa.

600 Flash
Bradford Oil Refg. Co., Bradford, Pa.
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Kendall Refining Co., Bradford, Pa.
Levi Smith Refining Co., Clarendon, Pa.
McKean County Refining Co., Bradford, Pa.
Waverly Oil Works, Pittsburgh, Pa.

600 Warren E
Butler County Oil Refg. Co., Bruin, Pa.

600 Oil City E
Butler County Oil Refg. Co., Bruin, Pa.
Carnegie Refg. Co., Carnegie, Pa.
Independent Refining Co., Oil City, Pa.

600 Filtered D.
Butler County Oil Refg. Co., Bruin, Pa.

Cold Test Stock (bright filtered)
Carnegie Refg. Co., Carnegie, Pa.
Kendall Refining Co., Bradford, Pa.
Mutual Refg. Co., Warren, Pa.
Warr-Penn Refining Co., Warren, Pa.

Cold Test Stock (dark filtered)
Carnegie Refg. Co., Carnegie, Pa.
Warr-Penn Refining Co., Warren, Pa.

Black Oil
Emery Mfg. Co., Bradford, Pa.

Wax Oil
Lucinda Refining Co., Lucinda, Pa.

Motor Oils

ILLINOIS

Indian Refining Company, Lawrenceville, Ill.

OHIO

Craig Oil Co., Toledo, O.

PENNSYLVANIA—100% PURE

Butler County Oil Refg. Co., Bruin, Pa.
Carnegie Refg. Co., Carnegie, Pa.
Continental Refining Co., Oil City, Pa.
Emery Mfg. Co., Bradford, Pa.
Empire Oil & Grease Co., Inc., Oil City, Pa.
Seneca Oil Works, Warren, Pa.
Waverly Oil Works Co., Pittsburgh, Pa.

Greases and Soap

Auto Soap
Damascus Mfg. Corp., Cleveland, O.
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.
Stevens Grease & Oil Co., Cleveland, O.

Axle Grease
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.

Chatterless Oil Base
Damascus Mfg. Corp., Cleveland, O.
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.

Cup Grease
Columbia Oil Co., 3419 Papin St., St. Louis, Mo.
Richardson Lubricating Co., Quincy, Ill.
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.
Yuba Oil Refining Co., Nacogdoches, Texas

Cutting Compounds
Damascus Mfg. Co., Cleveland, O.
Stevens Grease & Oil Co., Cleveland, O.

Gear Grease
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.
Yuba Oil Refining Co., Nacogdoches, Texas

Jack-Post Grease
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.

Mill Grease
Stevens Grease & Oil Co., Cleveland, O.

Mine Car Lubricants
Stevens Grease & Oil Co., Cleveland, O.

Pressure Gun Grease
Columbia Oil Co., 3419 Papin St., St. Louis, Mo.
Fiske Bros. Ref. Co., 24 State St., New York, N. Y.
Branch 215 Pontiac St., Toledo, Ohio.
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.
Stevens Grease & Oil Co., Cleveland, O.

Soluble Oils & Base
Damascus Mfg. Corp., Cleveland, O.
Stevens Grease & Oil Co., Cleveland, O.

Sponge Grease
Schaeffer Bros. & Powell Mfg. Co., St. Louis, Mo.

Transmission & Differential Grease
Capstone Mfg. Co., Plum Pt. Lane, Newark, N. J.
Columbia Oil Co., 3419 Papin St., St. Louis, Mo.
Damascus Mfg. Corp., Cleveland, O.
Fiske Bros. Ref. Co., 24 State St., New York, N. Y.
Branch 215 Pontiac St., Toledo, O.
Stevens Grease & Oil Co., Cleveland, O.

Universal Joint Grease
Stevens Grease & Oil Co., Cleveland, O.

Wax Distillate

PENNSYLVANIA

34-34½ Gravity
Bradford Oil Refg. Co., Bradford, Pa.

Wax

ILLINOIS

124-126 White Crude Scale
Indian Refining Company, Lawrenceville, Ill.

OKLAHOMA

124-126 White Crude Scale
Bell Oil & Gas Co., Tulsa, Okla.

PENNSYLVANIA

122-124 White Crude Scale
Butler County Oil Refg. Co., Bruin, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Kendall Refining Co., Bradford, Pa.

124-126 Crude Scale (off white)
Crystal Oil Works, Oil City, Pa.

128-130 Refined
Waverly Oil Works Co., Pittsburgh, Pa.

Fuel Oil

ARKANSAS

20-24 Fuel Oil
Imperial Oil Mktg. Co., Tulsa, Okla.

32-36 Gas Oil
Imperial Oil Mktg. Co., Tulsa, Okla.

KENTUCKY

24-26 Fuel Oil
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

28-30 Fuel Oil
Ashland Refining Co., Ashland, Ky.

30-32 Fuel Oil
Ashland Refining Co., Ashland, Ky.

34-38 Gas Oil (light)
Great Southern Refining Co., Lexington, Ky.

34-38 Gas Oil (dark)
Ashland Refining Co., Ashland, Ky.
Great Southern Refining Co., Lexington, Ky.

38-40 Gas Oil (light)
Ashland Refining Co., Ashland, Ky.

NORTH LOUISIANA

14-18 Fuel Oil
Caddo Central Oil & Refining Co., Shreveport, La.

18-22 Fuel Oil
Louisiana Oil Refg. Corp., Shreveport, La.

30-32 Gas Oil
Caddo Central Oil & Refining Co., Shreveport, La.

32-36 Gas Oil
Louisiana Oil Refg. Corp., Shreveport, La.

34-36 Gas Oil
Caddo Central Oil & Refining Co., Shreveport, La.

NORTH TEXAS

24-26 Fuel Oil
Sunshine C[illegible]olidated Oil Co., Wichita Falls, Tex.

34-38 Gas Oil (dark)
Texhoma Oil & Refg. Co., Wichita Falls, Tex.

38-40 Distillate-Prime White
Noble Oil & Gas Co., Tulsa, Okla.

OKLAHOMA

22-24 Fuel Oil
L. O. Carter Co., Tulsa, Okla.

26-30 Fuel Oil
Bolene Refining Co., Enid, Okla.

30-32 Fuel Oil
Bolene Refining Co., Enid, Okla.

32-36 Gas Oil
Bolene Refining Co., Enid, Okla.
Cameron Refg. Co., Ardmore, Okla.
L. O. Carter Co., Tulsa, Okla.
Imperial Oil Mktg. Co., Tulsa, Okla.
Roxana Petroleum Corp., St. Louis, Mo.

36-38 Straw Distillate
Cameron Refg. Co., Ardmore, Okla.

38-40 Straw Distillate
Bolene Refining Co., Enid, Okla.

PENNSYLVANIA

30-34 Fuel Oil
Butler County Oil Refg. Co., Bruin, Pa.
Mutual Refg. Co., Warren, Pa.

36-40 Fuel Oil
Bradford Oil Refg. Co., Bradford, Pa.
Carnegie Refg. Co., Carnegie, Pa.
Emery Mfg. Co., Bradford, Pa.
Independent Refining Co., Oil City, Pa.
Lucinda Refining Co., Lucinda, Pa.
McKean County Refining Co., Bradford, Pa.

SOUTH TEXAS

22-24 Fuel Oil
Pioneer Oil & Refg. Co., San Antonio, Texas

Road Oil

OKLAHOMA

Altitude Petroleum Co., Tulsa, Okla.

Petroleum Coke

Imperial Oil Mktg. Co., Tulsa, Okla
Johnson Oil Ref. Co., 208 LaSalle, Chicago, Ill.
Kendall Oil Refining Co., Bradford, Pa.
Shreveport Prod. & Refg. Co., Shreveport, La.

Ship Owners Will Oppose Bridge as Unsafe

Staff Special

CLEVELAND, May 8.—A brief opposing approval of plans submitted by the Public Belt Railroad commission of New Orleans for a bridge across the Mississippi river, has been filed by the American Steamship Owners' Association. Opposition to the bridge is made on the grounds that it will constitute a menace to the safe navigation of large ocean-going vessels which use the Mississippi river at present, for which there is now unobstructed navigation 140 miles above the proposed bridge site.

The site is two miles below Twelve Mile Point. Should the bridge be erected there, unsafe navigation would result, as pilots will be required to manuever their ships around Twelve Mile Point, straighten them on their courses in the uncertain currents below the Point, and then steer them through a bridge draw 420 feet wide, at a speed of not less than 11 miles per hour. Nothing can stop a vessel at high water, once she is below the Point and headed for the bridge, from reaching the site of the bridge except grounding. Slightest misunderstanding of instructions, an error in judgement or breakdown of machinery would cause a vessel to sheer and make disaster a certainty.

A number of petroleum refiners are at present located above the proposed bridge site, operation of which is possible only through the use of large sea-going tank steamers. These refineries include those of the Standard Oil Co. of Louisiana, Mexican Petroleum Co., New Orleans Refining Co., and a loading terminal and barrel plant of the Carson Petroleum Co.

Oil companies which are represented in the American Steamship Owners' Association include the Gulf Refining Co., Pan American Petroleum & Transport Co., Standard Oil Co. of California, Standard Oil Co. of New Jersey, Standard Transportation Co., Sun Oil Co., The Texas Co., Tide Water Oil Co., and Vacuum Oil Co.

WHEN AUNTIE COMES EACH YEAR SHE ALWAYS BRINGS THE NICEST THINGS

Missouri Oil Men to Have Meeting, Election

Staff Special

KANSAS CITY, MO., May 8.—The spring meeting and annual election of officers of the Missouri Oil Men's Association is scheduled to be held at Hotel Elms, Excelsior Springs, Mo., on May 21 and 22, according to George S. Allee, secretary.

Every jobber, refiner and producer, and very man connected in any way with the oil industry, is invited to attend. An instructive as well as entertaining program has been arranged.

Mr. Butler, state oil inspector, will be among the speakers to explain the various phases regarding the reporting and remitting of the gasoline tax. Another speaker at the meeting will be Robert W. Otto, Missouri's new attorney general, who will talk on the anti-discrimination law of Missouri as it applies to the oil industry.

Golf and other forms of recreation and entertainment have been planned. Mr. Allee requests every golfer to bring his bag and tools and participate in the golf tournament to be held Friday afternoon. He also asks that delegates bring their families to remain over the week end at this far-famed health resort.

Now It's 16-Cent Gasoline Fever in Florida Town

FORT MYERS, FLA., May 14.—The latest innovation that has been conjured up to upset the gasoline market is a 16-cent gasoline league which has been formed at Bradenton, Fla. At a recent meeting of the Bradenton board of trade, it was agreed that 26 cents per gallon, the present retail price of gasoline in that town, was too much, so a league was formed by local citizens to purchase gasoline wholesale from an Independent refiner at 10½ cents per gallon, retail it at 16 cents, build storage tanks and buy delivery trucks.

A membership fee of 50 cents will be charged. Assuming for statistical purposes, that half of the population of Bradenton, which has a total population of 7364 inhabitants according to the 1925 census, were to become members of the league, paying a fee of 50 cents each, the gross revenue obtained would approximate about $1,800. Just how far this amount of money would go for the purposes for which it is intended, can be gussed by any oil man.

It appears, from reports reaching this office from a man who has been connected with one of the large Independents operating in that territory, that the backer of this 16-cent gasoline idea claims Omaha, Neb. as his home, and that the same tactics which were used there will presumably also be used at Bradenton.

THE EDITORS' VIEWPOINT

Stealing a Trademark

WHENEVER anyone creates a thing of value, unfortunately there are always some people in this world who will try and obtain some of that value without being entitled to it and without paying for it.

This is one of the greatest troubles of any national advertising campaign for a product or trademark. The reputation of the western Pennsylvania refiners for their high quality lubricating oils has long been purloined by various people in and out of the oil industry, who have offered oils from other crudes as Pennsylvania products.

One of the most important problems which the Pennsylvania Grade Crude Oil Association considered in starting was how to protect its good name as it developed its reputation through national advertising. Various police measures have been established, but it is unfortunate that it has been necessary to establish them and use them.

Now come complaints that some oil companies are trying to move in under the national emblem of the Independent Oil Men of America, the Advertising Division of the National Petroleum Marketers' Association of Chicago. It is reported that companies who are not members of either the advertising program or of the association have stolen the emblem and are using it. "STOLEN" is the right word, because to use a trademark to which one is not entitled is just as reprehensible and just as criminal as to steal another man's watch, or his money.

We hope that the various groups and interests who have these trademarks to defend, will defend them vigorously. A few cases when the offenders have to pay heavy fines or if it's possible put in jail, will go far towards making such type of people respect other men's property—W. C. P.

Great Technical Progress

ONE of the most remarkable features that impressed the observer of the recent annual meeting of the Association of Natural Gasoline Manufacturers at Tulsa, was the large number of well informed technical men who were active in that branch of the oil industry.

When one looks back to the early days of the natural gasoline or casinghead gasoline business, one can't help but be tremendously impressed with the thought that the influx of technical and highly skilled men into the natural gasoline industry has been greater in those years almost than into the refining or other ends of the oil industry.

The discussions at this Tulsa annual meeting were not only highly technical but also highly scientific. But even though this got pretty deep, it didn't scare away the crowd, which stayed and seemed to enjoy it as well as understand it. One can truthfully say that not only has the product become stabilized, but also the industry. It speaks well for the men in the industry, as well as the men who formed and have been and are officers of the association.—W.C.P.

Be Optimistic With Ford

"SEVEN THOUSAND More Since Yesterday," is the message of Henry Ford plastered on hundreds of billboards in the last few weeks. Seven thousand more flivvers are moving daily from the Ford assembling plants scattered from the Atlantic to the Pacific and approximately as many are being sold daily by the thousands of Ford agencies.

Assuming that the average life of the car is four years, that means that only approximately 1750 cars are being used as replacements and 5250 are going mostly to persons who heretofore have had no cars. Fifty-two hundred fifty potential gasoline and oil consumers are added daily by this one organization to the millions of motorists in the United States. And Ford is trying out in Detroit a plan of low down payment and small weekly installments which if successful, may be tried elsewhere to reach a still wider market than he has reached heretofore.

Possibly the Ford production is a little more than half of the American output at present. A fair and safe estimate is that about 9000 automobiles in excess of replacements are daily entering service in America. In one week that quantity would exceed the number of motor cars in use in any country in the world except Great Britain, Canada, France, Germany, Australia, Argentina, and Italy with Spain, Belgium, India, and Sweden each absorbing approximately one week's manufacture. The number made in one week is two and a half times the number of cars in use in a country so expansive as Russia. In less than two weeks the Ford company alone could more than replace every automobile now existing on the entire continent of Africa.

Considering this rapid increase of automobiles in the United States where last year were registered 17,726,507 of the 21,360,779 automobiles in the world, there seems to be no reason for the pessimism about the future of the American gasoline and oil market even though production of motor fuel has been pushed to a high point and more than a billion and a half gallons of gasoline are held at refineries. This volume of gasoline represents only one sixth of the estimated demand from consumers in the United States during 1925 and considerably less than the consumptive requirements during any two months from June to October, inclusive.

In recent years no one has accused Mr. Ford of not knowing the automobile market. If he is willing to send out 7000 new cars and trucks every working day and sell them for money yet unearned by the buyers, surely the oil industry should shake off some of its pessimism about the future of this year's gasoline markets.

Conditions are far different from those in the spring of 1924 and 1923 when a great volume of gasoline crude production was developing. The Smackover flurry should not have any bearish influence on gasoline because Smackover crude contains so little of the light end. Weather this year also has been about all that the oil marketer could wish for.

At the recent rate of consumption it would not be surprising to find, when final figures are available, that early estimates of 1925 consumption were a little too low.—R. B. S.

A Real Merchandising Idea—"The Beacon"

Each visible glass cylinder contains a long tubular electric light bulb, flashing on and off intermittently—or burning steadily in cold weather.

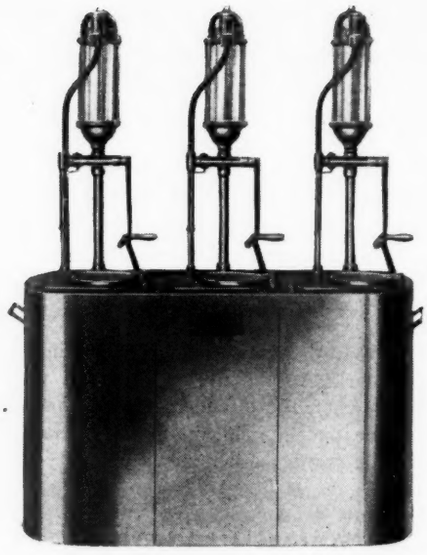
"Attracting attention to your Oil."

This powerful selling principle of display is utilized by all the great merchants of the country, who pay fabulous rents to get locations on thickly traveled streets, so that their carefully dressed show windows will have opportunity to draw in customers.

Your oil is not a lifeless thing to be sold from a drum to the person asking for it, or sold from the cheapest pump money can buy. Its color, it clarity—those are the first things that appeal to a customer. The Beacon shows it to them. It gives your filling station a real merchandising idea to build up oil sales. Only with the Beacon is this possible.

The Beacon Equipment Company
Hamilton, Ohio

LUBE OIL AND KEROSENE PUMPS



Beacon Lighted Typed "R"-made with two or three compartment tanks with 30-gallon capacity to each compartment.

"Easy to see means Easy to Sell"

The Service Station

THE gasoline service station of the oil industry is one of the public's most efficient servants. It is where the public wants it at the time the public needs petroleum products. It is direct in its service, and economical in its investment and operation. To the nearly eighteen million motor car owners and to the hundred and ten million other people of the country it is a striking evidence of the oil companies policy to distribute their products in the simplest, most direct and most efficient way.

The service station insures not only the most direct and economical delivery of gasoline to the motorist, but also that he will get exactly the gasoline he wants. There is no danger of substitution or adulteration, for it is by reason of the service station that the oil industry can distribute its own products, through its own facilities from well to consumer.

The service station is a development strictly within the oil industry, not an idea borrowed from outside. So far as National Petroleum News can learn, it was conceived by an Independent marketing company in St. Louis some fifteen years ago. Its perfection since that time has been by the oil industry. The successful aim has been to put stations where the public needs service; to make them as efficient as possible; as good looking as possible, and yet to hold their expense down to barely what is necessary to accomplish their important service.

Furthermore, gasoline service stations are the best evidence to the public of competition among oil companies to render them service for their trade. The tremendous variety in style, size and design found in the seventy-five thousand service stations scattered over the country is further evidence of the multitude of oil men, striving in hot competition with each other for the public's favor.

No reasonable person can see the service stations, even in one town, without recognizing in their very dissimilarity the obvious competition for his business. These stations are the biggest and most important means of advertising the oil industry to the public. Their very individuality is an important part of their publicity value. One company prefers brick buildings, another stone, another frame, another steel. One company likes them round, one likes them square, another likes them oblong. In every filling station it is possible to see the individualism of its owner, striving for expression. Augmenting the owner's personality is the skilled cooperation of station builders and equipment manufacturers in tangible expression of ideas.

If the oil industry would feel proud of itself, let it look around at the distributing mediums of other industries; let the oil industry observe the seeming hit-or-miss fashion in which so many industries distribute their products. No matter where he looks an oil man can not help seeing examples to make him proud of the low-cost distribution of petroleum products through pump and service station.

But, no matter how proud the oil industry is of its service stations now, every oil distributor is studying to make them more efficient and more worthy of the public's patronage, as many articles in this special service station number of National Petroleum News will show.

WARREN C. PLATT, *Editor.*

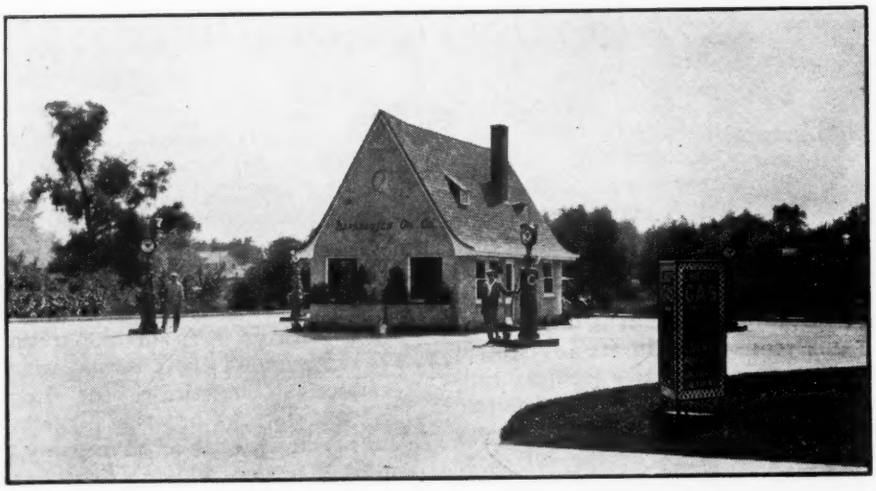
Service Station Field is Playground For Architectural Design

Staff Special

MADISON, May 11

FILLING station construction lends itself conveniently to freakish architecture. The advertising value of an attractive oil station is a great but nevertheless an intangible asset. With all this in mind, oil dealers have gone the limit in materializing their architectural air castles.

There is no set type for service stations. They can be Greek. Gothic or Spanish Mission without disguising their purpose. They can be Early Colonial or Queen Anne and still have enough pumps around them to identify them as service stations. Motorists know that any odd and artistic structure by the roadside is likely to be a service station, whether there are any pumps in sight or not.



This new filling station of the Barkhausen Oil Co., in Green Bay, Wis., is a mate to the one shown on the front cover of this magazine

There is a story told of a middle western motorist who toured "down east" and near the end of his journey on a certain famous thoroughfare came to a dead stop in front of Grant's Tomb and yelled "Fill 'er up" at a naval officer standing nearby.

The Wisconsin Type

This individual came from Wisconsin probably, where art and originality have gone farthest in service stations. There was a time when a service station without a canopy was as rare as a church without a steeple, but those days have gone. There is no absolute rule by which a service station can be identified architectully. Even the pumps are not always conspicuous. Some companies standardize on certain types of stations, and that has an advertising value besides being economical, but companies operating in somewhat limited areas usually do not standardize. One of the conspicuous cases is that of the Barkhausen Oil Co. of Green Bay, Wis., whose management insists on every station being different, and not only different but distinctive.

S. D. Hastings, head of the Barkhausen Oil Co., is said to have been the moving spirit in the plan for distinctive stations which is now sweeping Wisconsin—and by the way, the oil men of that state never did go in for cheap stations in spite of all that may be said in favor of them. Take a look at the one on the front cover of this issue.

Foeller, Schober & Stephenson, a firm of architects in Green Bay, has prepared the plans for the two newest stations built by the Barkhausen Oil Co., and they are marvels for looks. What is more they are convenient, for one of this organization has specialized on service station architecture. One of the great differences between a professional job and an ordinary freak station lies in its convenience and adaptability to its mission in the world.

Erecting a miniature mausoleum or a copy of the leaning tower of Pisa and worrying later about where to set the lube tanks and the cash register is an amateur's job. But starting out to build something which above all is a service station, and accomplishing the erection of a structure that is also a credit to the community, is a job for an architect. Furthermore the importance of this feature is being impressed rapidly upon the oil industry. Before the summer is over in Wisconsin, five handsome stations will be in operation which are the product of the plans of Clarence Jahn, the service station specialist of Foeller, Schober & Stephenson.

These five new stations each are the property of different companies, firms which handle most of their gallonage in some one or two towns. They are the Pennsylvania Oil Co., here in Madison, building a stone station on the main drive between the State Capitol and the State University, and it warrants its conspicuous position: The Wisconsin Oil Corp., at Walworth; the Waupon Oil Co. at Waupon; the Pendergast Oil Co., at Lake Geneva; and the H. A. Barkhausen Oil Co., of Marinette, Wis.

The cost of each of these stations is a professional secret, but they will run from $15,000 to $25,000 each. Two of the stations in Green Bay each represent an ivestment of $25,000. Of course on buildings of this character, there is no way to avoid giving them an appropriate setting. Mr. Hastings says he spent roughly $1,000 on landscaping the grounds for one of his new stations opened last spring. In this special case however there was a great deal to overcome in the way of unsightly background. Especially at night is one of these stations a thing of beauty. There is no way for a motorist to approach one of them and get a light in his eyes. Every one is illuminated indirectly. Some of them are flooded with searchlights mounted on top of an innocent flagpole. One remarkable similarity of all the new stations in Wisconsin is the absence of the old fashioned covered drive. None of the stations Mr. Jahn has planned is equipped with canopy.

When tourists from all over the country leave Wisconsin next fall they will be obliged to take away with them the recollections of some gorgeous service stations. The Pendergast station at Lake Geneva probably will introduce the procession, for it has the advantage of being at a popular resort town in the southern part of the state. Incidentally, this article is not an advertisement for Foeller, Shoeber & Stephenson, because it is understood there is a gentleman's agreement between the firm and the Wisconsin Oil Men that Mr. Jahn will not sell his services outside the state.

Owner Wants Results

Mr. Jahn says his experience with oil men is that they are not especially interested in knowing the details of the work done on their stations. They want to make a few important specifications and leave the rest to the man who draws the plans. With so much responsibility on him, Mr. Jahn has become almost an oil man. He has developed some well defined ideas on locating service

Roxana Petroleum Corp.
Station at 43rd and Union Sts.
CHICAGO

EHRLICH Safe
balks two attempted robberies

The security of station money when placed in an EHRLICH Safe has been impressively demonstrated on two recent occasions in Chicago.

January 24, 1925, between 9 p. m. and 7 a. m. the station of the Roxana Petroleum Corporation at 43d and Union Sts., was broken into by thieves. The day's money was the object of the attack as no oil stocks or office equipment was disturbed.

The EHRLICH Safe contained $168 cash, which was intact when the attempted robbery was discovered the next morning. The safe had been submitted to a severe hammer and chisel attack without avail.

On the night of March 16 another attempt was made to rob this same station. The EHRLICH Safe at this time contained $200. The robbery was again balked, as the safe, although showing the marks of hammer and chisel, could not be opened.

No Money Has Ever Been Stolen From an EHRLICH SAFE.

The features of an EHRLICH Safe, besides its absolute protection of station money, are—convenience of the attendant (no combinations)—small floor space required (can be installed under desk or in otherwise waste space)—durability (will last a lifetime)—low first cost.

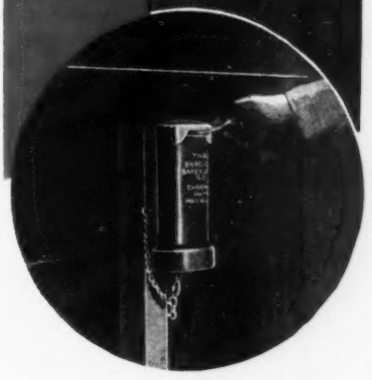
The EHRLICH is acclaimed as the only safe on the market offering such absolute protection against robberies—that can be bought at such a low price. Your saving on insurance will more than pay for an EHRLICH.

The main part of the EHRLICH SAFE is an electric cast steel cylinder 14" long and 5½" in diameter. It is provided with a Yale 5-pin tumbler locking cylinder. The safe is mounted on Shelby tubing 53" long, 24" of which is set into the ground and securely anchored in concrete. The bottom of the receptacle cylinder is 15" from floor.

Write for complete descriptive literature, or send your order. Sold under money-back guarantee. You incur no obligation by asking for full information.

EHRLICH
SAFE & LOCK CO.

General Offices: 810 W. Lake St., Chicago, U. S. A.



Showing How Money is Deposited in an EHRLICH safe.

$42.50

The EHRLICH Safe protects the lives of your station employees, who only carry enough money for change The balance is deposited in the EHRLICH safe and the key is not left in possession of the station operator.

ABSOLUTE SAFETY FOR LESS THAN 2¢ PER DAY

stations. One of them is that "in-town" locations on charted state highways are seldom worth the money they cost and actual traffic does not justify the premium asked by the real estate people.

Before attempting to make the plans for a service station the architect visits the site himself or has somebody visit the place who can bring back an accurate description. This description sometimes includes information whch cannot be had from any source except the oil man who is about to build, but in many cases the architect asks the oil man nothing except the location of the lot and about how much he wants to pay for the type of station suggested.

At some time before the plans are drawn the owner of course must make known the number of pumps he wants at the new station; how much storage he wants to bury there, and usually a list of the products he wishes to dispense. The rest of the work and responsibility is left to the architect. He must lay out the drives for satisfactory service, locate the pumps, air stands, water stands, lighting posts, advertising plates and decorations on the outside, not to mention drain pits and their camouflage of green foliage. Location of safes and cash registers, desks and chairs, lube tanks and display racks and other equipment inside the station are problems for the architect also.

Fool-Proof Construction

If the thing does not work after it is finished the blame is on the architect. "If the Station layout looks like a good venture," Mr. Jahn says, "and has the appearance of a long-time installation, then all undergound work must be placed so as to be easily accessible for repairing. Age and usuage will make anything deteriorate and repair should be made conveniently and cheaply in after years.

"City authorities, chambers of commerce and 'city beautiful' organizations look with more favor on a service station that looks as good or better than the houses surrounding it. Stations that do not present an ugly appearance, that do give service and are assets instead of a nuisance in a community, are appreciated. Their owners seldom have any trouble getting additional favored locations in a city while other companies wonder how it happened."

Accomanying is a data sheet which shows some of the information an architect needs in regard to a location before he starts to make the plans for a service station.

Data For Architect

Name of owner .....

Loeation: Lot No. 77, dimension 72x75 feet, Main and Wells streets. (Compass points and photographs).

Soil: Loam 2 feet, sand 6 feet, balance probably clay.

Sewers: In Wells street, flow south, pipe 8 in., depth 4 ft. 6 in.

Obstructions: Trolly poles and hydrant on Main street but city will move both. Frame building to be removed.

Service: Telephone wires rear; electric on Wells street; water and gas lines in Main street; no storm sewers; water and sewer connection in bad condition; current 220-110-60.

Pavement: Asphalt on Main street macadam on Wells; both 100 feet wide; 14-in gutters on Main street, slight flow east; double car line and traffic in Main street.

Sidewalks: Width 12 feet on Main, and 8 on Wells, level with curb, construction poor.

Building: One first-class fire-proof building, English type, no basement, reasonable expenditure, tile floors, ladies' room, safe, cash register; plan three attendants.

Pumps: Four National Recording gasoline pumps; no oil pumps; no future pump locations; two air stands, make undecided.

Oil Pits: One oil pit any practical depth; location out of sight; oil removed in drums; no grease rack; oil dispensed in containers.

Tanks: Four 2000-gallon gasoline tanks 64 in. x 12 ft., vented.

Telegraph: Western Union clock; no call box.

Restrictions: City beautiful rules; zoning laws; building code.

Surroundings: Appearances poor; site to be landscaped; ornamental fountain; flag pole; flood lights; signs.

Names: City's contractors and public service companies.

A. E. Chandler's handsome service station in Casper

Former Station Manager Heads Burner Company

CHATTANOOGA, Tenn., May 7.—H. M. Daugherty, who has been station manager at Shreveport, La. and Chattanooga for the past nine years for the Gulf Refining Co., has severed his connection with this company to enter business for himself.

Mr. Daugherty was recently elected president of the Chattanooga Oil Burner Co., which distributes William Oil-O-Matic burners in this territory. He has also been elected vice president and sales manager of the Refrigeration & Supply Co.

Mr. Daugherty served during the world war in the Motorized Field Artillery units, rising from private to major.

Jobber Teases Tourists to See His Station

CASPER, May 7.—Hundreds of tourists (some from states far removed and many of them making the trip for the first time) begin a short distance from Denver to pick up signs along the Yellowstone Highway, calling attention to "Casper's Finest Filling Station."

These signs mark the trail all the way and by the time the visitor is somewhere near the objective, he is, presumably, all agog, as the saying goes, over what he will find when he arrives at this station.

The accompanying picture shows that the visitor is not disappointed with the appearance of the station when he arrives. That is not all the story, however. The visitor usually wants much more than a pleasing view. It is of interest to note that he gets what he wants.

Whether the patron desires a tank full of gasoline, information or merely a drink of water, the A. E. Chandler station is ready to supply it. The owner, himself will usually be available to attend to it. The picture shows Mr. Chandler. It is not wholly typical. Let a little congestion of patrons occur and out he comes to man a pump, put water in a radiator or help a patron change a tire.

There are a few distinctive touches at this station, which is located at Second and Yellowstone—right on the way to the Yellowstone Park. Note the small plot filled with stones in the foreground These are painted a bright green and serve better for adornment than would a grass plot. Under the most favorable circumstances, grass is hard to raise in this part of Wyoming.

Mr. Chandler carries several brands of oils, several of them nationally advertised. Right now he is selling White Eagle gasoline, made by that company's Casper refinery.

Tendency is Toward Better Stations Rather Than More of Them

By Ward K. Halbert

N. P. N. STAFF WRITER

CHICAGO, May 10

ALMOST 60 per cent increase in automobiles registered in Standard Oil Co. of Indiana territory since 1921, has been met by the oil industry with a 200 per cent increase in the number of service stations. In simpler language, there are today eight automobiles where five existed in 1921, and there are three service stations operating today where one did business in 1921.

As the accompanying table will show, there are just half as many cars per station now as then. Statistics indicate that service station construction will probably be slower in the future than in the past in this territory, and also that stations will be located with more care and thought than in the past.

It should go without saying that conditions existing generally over a state or 10 states, mean nothing to an individual oil man when he is thinking about building a service station. He is thinking only of conditions that will affect business at a certain corner in a certain town. What does the oil jobber in Gary, Ind., care how many unnecessary service stations there are in Iowa, if he has found what he believes to be a good site on which a new service station would develop profitable business?

Building Will Continue

Service station building will continue, regardless of what anybody may say. Some stations will be situated wisely and some will not, and those that are wrong, will perish and those that are right, will survive, just like other commercial institutions. Everybody in the oil business is willing to build a paying station. Nobody wants to build a losing one. There are not enough profitable oil stations and too many unprofitable ones, and the same goes for drug stores and restaurants and what not. Nevertheless, the figures are interesting to study.

Through the workings of this natural law, "The Survival of the Fittest," some filling stations will be closed; in fact, some have been closed already. A motor trip of half a day will surely reveal from one to three service stations out of operation. Some have had pumps taken down and tanks removed. Others hope to "come back" and all the equipment is in place. The question arises, "Whose stations are they?"

Most of these dead service stations show to whom they once belonged. The location was selected with the sale of "hot dogs" and hamburger sandwiches chiefly in the builder's mind. Maybe he knew when he picked the location in 1923 that some over-stocked oil man would give him a pump and tank and cut the tank wagon price 1 or 2 cents for him, as an inducement to sell gasoline; but he was not an oil man. So his business flourished like a grasshopper in the summer and died with the coming of frost.

Some Good Ones Picked

Of course, it is admitted that some locations have been picked accidentally by inexperienced men making a venture in the gasoline business. It is true too that some real oil men built service stations to meet competition in 1923 and 1924 that will have to be dismantled. But, by and large, it is the station built by the experienced oil jobber that will be in operation after a season of narrow margins.

A few more than 1000 service stations were built in the 10 states constituting Standard Oil Co. of Indiana territory in 1922, but in 1923 more than 2500 were built and in 1924 nearly 4000. It is a fairly safe venture that the number will be smaller in 1925. Look at the table again. There were nearly 1000 registered automobiles to every operating station in the 10 states in 1921 while there are fewer than 500 now. There is a limit to how little gallonage a station can have and stay in business. And every one that dies will bequeath some patronage to a competitor without increasing his overhead.

Who Pays the Bills?

There is a belief among some classes, especially politicians, to the effect that the public has to pay for all the service stations in the price of its gasoline.

When an oil man builds a service station (1) it is paid for when it is finished, or (2) it pays for itself in operation, or (3) it is charged off the books when it fails to pay and is closed. If it is paid for when it is completed the money comes out of capital or previously earned profits of the oil company. If it pays for itself in operation it is a station whose existence is justified. And if it is a bad venture and has to be considered a loss it is certainly a loss of the oil man's previously earned profits or capital.

If there were no economic limit to the number of service stations built; if every one built had to stay in operation and pay its own overhead out of its profits no matter how little business it did, then, of course, the cost of it in the long run would have to be paid in the price of oil it sold. But such is not the case. When a service station has too little trade, its profits are small in proportion to its volume of business and, when it suspends operation, the owner has to sustain the loss or pass it to the people who gave him financial backing. Apparently the consuming public has not yet been hurt by paying for needless stations, because it is the public's demand for handy service that had brought about the building of many stations.

Business for All

Oil men have learned that the motoring public is an intolerant public. It does not want to wait on anything when it is seated in an automobile ready to travel. Thus service stations have been built in a manner, and in an abundance, to give rapid service at times of peak demand. Maybe the public has had to pay for this in a limited way, but any service has to be paid for by those who receive it.

Authentic statistics show that the average passenger car burns 300 gallons of gasoline a year, or less. Suppose the average motorist had to pay 2 cents a gallon more than the actual cost of the material for this speedy service; that means his service costs him $6 a year. What motorist would sell his chances to get this service for $6 a year? But remember—this service has not yet cost any motorist 2 cents a gallon, and it is not likely that it will ever cost him that much. In fact the entire margin for service station operation today is figured at 2 cents in most parts of the country.

Looking at the table in another way, there appears to be upwards of 400 gallons of gasoline a day for every ser-

Make Your Own Comparisons and Deductions

Here are the Figures for S. O. of Ind. Territory

Dec. 31	(SERVICE STATIONS IN OPERATION) Standard	Others	Total	Automobiles Registered	Automobiles per Station
1921	1,448	2,114	3,562	3,495,194	981.2
1922	1,668	3,414	4,582	4,048,372	883.5
1923	2,075	5,189	7,264	4,824,158	664.1
1924	3,013	8,203	11,216	5,508,570	491.1

vice station in Standard Oil Co. of Indiana territory, if the gallonage were distributed equally. It is reasonable to assume that all the better stations, wisely situated and well handled are selling at least 500 gallons a day. This conclusion is reached as follows:

The Atlantic Refining Co., by a systematic checking of its business, finds that passenger car gasoline consumption averages 294 gallons a year in that company's territory. Trucks average 1500 gallons a year, it is estimated. For easy figuring, and in view of the fact that parts of Standard Oil Co. of Indiana's territory are farther south than Atlantic Refining Co.'s territory, consider that the average registered automobile (trucks and all) in Indiana Territory, uses 300 gallons of gasoline every year.

150,000 Gal. per Station

Take the average of 491 cars per station, shown in the table, and multiply that by 300 gallons per car. This shows a little less than 150,000 gallons of gasoline per year for each station in the Standard Oil Co. of Indiana's territory, if it were evenly divided. That is more than 400 gallons per day per station. And if the real oil men in that region have used their heads and their experience in building stations, they do not have many of the poor ones. Their gallonage per station is above the average.

The Press Attitude

It is a common joke in humorous papers, that the lights on service stations illuminate the streets of small towns without the aid of street lamps. More serious publications discuss the matter at times. In the editorial columns of the Sioux Falls Press, Sioux Falls, S. D., on Feb. 17, the question was discussed and the oil industry denounced rather severely. The editorial said in part:

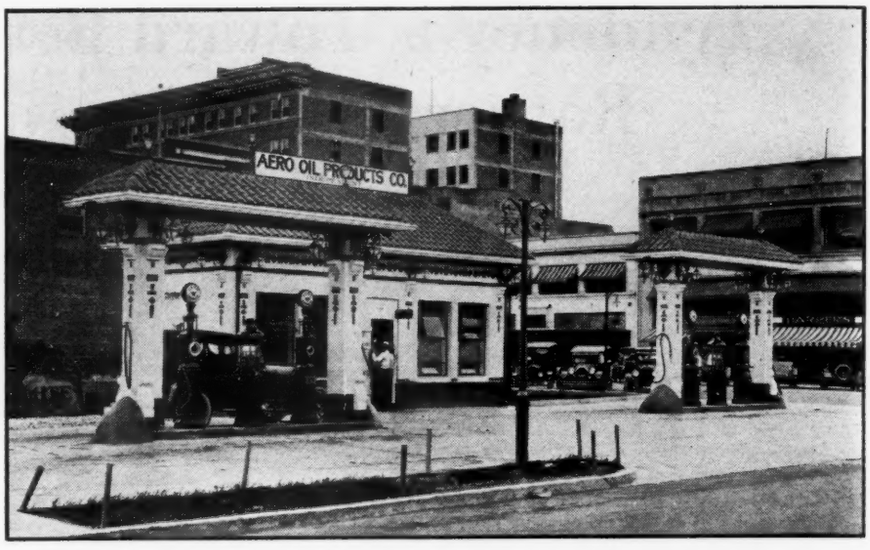
"Of all the wastes connected with the oil industry as organized at present, none perhaps is a greater burden than the waste in distribution * * One remedy suggests itself—a drastic one, but likely to get results should the autoists decide to use it. Let gas and oil buyers organize and decide how many of the stations in operation are really needed, and which ones, and take the matter up with the companies maintaining these stations. * * One of these days they will decide it behooves them to get together and see what they can do about being forced to carry all this needless overhead. When they do they can and will get results."

Of course, this editorial writer was assuming that all stations in existence were making money, and that if one half or two thirds of them were disposed of the motorists would get cheaper gasoline sooner or later. In both notions he was probably in error. There is an economic law that will take care of the elimination of needless and wasteful service stations. And just as certainly, it is impossible to organize the motorists of a community to patronize one station and boycott two others.

It is for defense against just this type of attack from politicians and other classes who capitalize on sensations and public suspicion, that these figures are presented. They do show that a service station has to fall below 500 gallons a day before it is beneath the average volume of business, but any oil man will know that many of these 500-gallon stations are making money because their overhead is small. In other words the truth about conditions in service station building is more encouraging than politicians would have the public believe.

Another important consideration is the possibility that the number of stations per thousand automobiles in Standard Oil Co. of Indiana territory is greater than in most other territories. This is attributable directly to the fact that the middle west has been the scene of the most heated competition for gallonage among refiners in the two past years of over production.

The Mid-Continent group of refiners, by reason of the freight rates based on Group 3, have to look mostly to the middle west for their outlet. That particular territory was so invaded by gasoline cheaper than Group 3 material, coming in from the east as well as the west, that margins were unusually wide for the distributor, and stimulated a campaign of filling station building by persons unfamiliar with the business. Many such stations did business in soda-pop and sandwiches as well as gasoline and their support although it comes from the motoring public, is not out of the gasoline budget.



Aero Oil Products Co. of Cheyenne, even in the cold Wyoming winter, dispenses lubricants from out-of-door pumps. The oil is kept warm with steam lines

A busy filling station of Western Oil Refining Co., at Connersville, Ind. all dressed up for Memorial Day

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WICHITA FALLS, Tex.—The Texhoma Oil & Refining Co., with headquarters here, has opened its sixth filling station in this city. A box of chocolates was presented to each customer on the opening day. The company reports the largest gasoline sales ever recorded in this city, according to C. C. Jones, Jr., advertising manager.

GLENCOE, Minn.—Bailey & Fenske recently opened its service station here, handling a complete line of Cities Service Oil Co. products, according to C. E. Winter, of the Cities Service station at St. Paul, Minn.

Build Palatial Station to Comply With Rulings in Restricted District

A $75,000 service station, which easily ranks among the most elaborate in architectural style and beauty in the country, has just been completed here by M. G. Goetz according to A. D. F. Bloodworth, vice president and general manager of the Miami Oil Co., Miami, distributor of Marathon and Mioco motor oils, and automobile accessories.

The rigid restrictions imposed on all homes and buildings in Coral Gables which is the largest and most exclusive suburb of Miami and is often referred to as the Miami Riviera, have been complied with in every respect in the construction of his service station. It was designed by H. George Fink, who is responsible for much of the architectural beauty of Coral Gables.

Several motifs and decorative details characteristic of residences and buildings in the countries bordering the Mediterranean sea are employed in the station building. A mosque effect at the top of the high Moorish tower at one corner of the building is secured by the rounded dome, the moslem or semi-oriental effect being further enhanced by the spiked decorations at the top of the dome, at each corner of the tower, at regular intervals about the edge of the roof of the station, and by the long narrow slits in the tower and in the station walls which may serve for windows. The tower has been designed to accommodate a large clock.

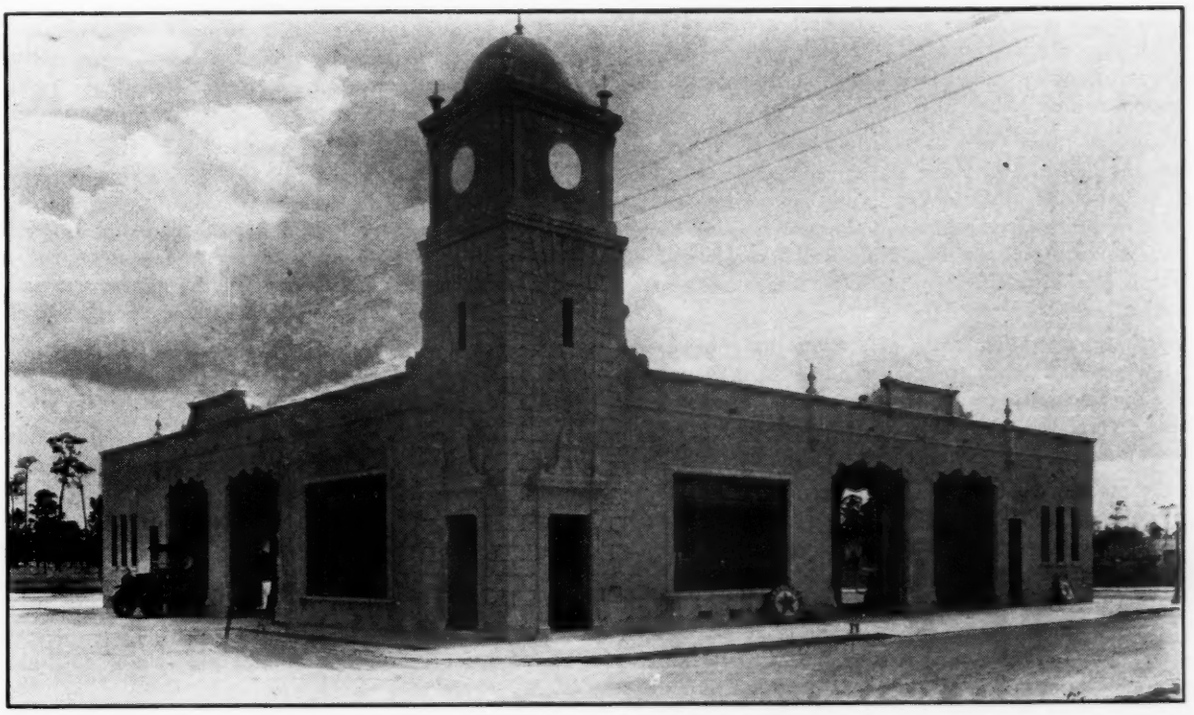
Pillars carved in spiral fashion form a part of the large gracefully-decorated doorways. Two large show windows, one on each street, will be used for the accessory shop which Mr. Goetz will run in conjunction with the service station. Many electric lights about the edge of the tower which will illuminate the tower and special lighting fixtures have been added to give plenty of light at night.

The station is equipped with rest rooms, furnished in keeping with the appearance of the station. Four gasoline pumps, auto laundry system for washing and polishing cars in 15 minutes, a basement containing the grease and oil tanks, elminating grime and grease from main parts of the station, complete the equipment

Another outstanding feature is the cloister or monastery effect obtained by the decorative Spanish grilles of wrought-iron over the cashier's window and the portals, which is further enhanced by the expanse of plain bare walls and the many gracefully curved doorways within the station which separate the various departments.

The station is advantageously located on Alhambra Circle and Galiano St., a short distance from Douglas road, one of the main thoroughfares leading through Miami, Coral Gables and the entire Miami metropolitan districts.

Would you believe this to be the interior of a service station? Note the cloister effect produced by the Spanish grille and the many arched door-ways, without doors. The station belongs to M. G. Goetz, Coral Gables, Miami, Fla.



Of unique architectural design, with Moorish tower, classic doorways, and the long narrow slits representing windows, common in a moslem country, is the service station just completed at a cost of $75,000 by M. G. Goetz, at Coral Gables, an exclusive suburb of Miami, Fla.

Day of Station Salesmanship Here

By V.B. Guthrie
Managing Editor, National Petroleum News

CALLING an establishment where gasoline and motor oil was dispensed a "service station" has undoubtedly handicapped developing of the maximum volume of business there. Service has been developed at the expense of salesmanship. Witness the furnishing of air standards, making a feature of water for radiators, elaborate rest rooms in many cases, draining crank cases without charge and greasing without charge except for the material.

All these have been a boon to the motorist, true, and most of these features without doubt should be installed for his benefit, yet the field of service station development up to the present has been to play up the service given patrons, to rely upon that to get the motorists' trade in sufficient volume to operate the station at a profit. As a result, the necessity for employing real salesmanship to build up trade has been kept too much in the background.

When service stations were first established they came into being mostly as part of the equipment necessary to put gasoline and motor oil in the cars of the consumers. They were classed somewhat as trucks. If they could move a sufficient volume of products they would pay for their cost and operation. In place of operating trucks to deliver gasoline to motorists' homes and other retail channels, stations could be installed and made an outlet for this commodity.

The stations themselves have developed tremendously in the 15 years or so they have been in existence. From a property where a cumbersome building oft'times was stuck in the center of the lot with the drives consequently cramped and ill-arranged for the convenience of motorists, they have been improved to the properties we have today. With a small station building out of the way, without canopies in many cases and with drives arranged for easy access and pumps located so a driver can halt at one without waiting for other cars to drive out, there is no comparison in the physical equipment of today with that of former years.

Yet through all these years service has been the great appeal to get the motorist into the station and hold his trade. However, it is possible that in the future competition is going to force better salesmanship and the adoption of something of the same merchandising principles that govern the average retail establishment in other lines, into gasoline station operation.

For one thing, operating costs of stations have increased the past few years. Rents are higher and cost of property. Wages for operators have advanced and show no indication of declining. Over the past few years the independent single station owner and operator has come to be more of a factor.

He is the man who has a liking for running a store and catering to the public's needs. The possibilities in retailing gasoline and simple accessories appeal to him. He owned or controlled suitable properties. He could put up a shack for his station at low cost. The oil companies would install most of his equipment. By having only one place of business to look after and by being on the job himself and realizing that every additional gallon of gasoline, quart of oil or can of grease he sold was so much more in his own pocket, he has often built up a surprising business.

Then, too, has come along what might be called the complete unit, the accessory business, tire and tire repair shop, battery service station along with the gasoline and oiling and greasing service. The oil companies seldom operate these units. True, they furnish the petroleum supplies but at the dealers' price and their own stations lose the margin of profit on the retailing of the goods put out there.

Then there is the dealer with the "hot dog" stand or ice cream parlor under the same management. He catches some of the trade away from the oil company station.

How is the oil company station to meet this phase of the retailing business except through improved salesmanship at its own stations? Through letting the attendant go who is perfectly willing to sell two gallons of gasoline—if that is what the motorist calls for—and not try to increase that sale—and putting in his place someone who has the knack and willingness to push his company's products.

The oil company has one great advantage over the other retailing agencies. It must stand behind the quality of its oil products. That is the public's protection and that fact should be impressed on the public. The motorist does not know what he gets from the pump alongside the hot dog stand.

One company had its eyes opened as to the possibilities for increasing its business through applying real salesmanship at a station. A man, over the company's age limit, applied for a position as a station operator. He was given a job, because he had formerly owned a grocery store. In two months that man led all the company operators in his sales. He explained it thus:

"The other boys let them get away with a small can of grease. I sell them a large can."

Equipment manufacturers have done much to aid the station operator in shoving up his sales. The gasoline pump has been improved in appearance and efficiency to the present 10-gallon visible, or piston type electrically operated dispenser—a long step ahead from the equipment of early days. Attractive cans, display racks, and devices for handling oils and grease have been put out.

Yet the actual application of real merchandising principles at oil company stations, except in a few instances, has not developed far ahead of giving the motorist the specific number of gallons of gasoline he asks for, asking him if his oil needs changing and letting him drive away.

Here are some points on which salesmanship can be developed, from the experience of oil companies:

Picking men possessing a knack or liking for selling.

Impressing station men with the fact they are expected to be salesmen rather than pump operators.

Arranging contests to bring to the front the men building up their own sales most successfully.

Training station men in schools conducted by the company along the line of selling oil products.

In such training courses giving the station salesmen some knowledge of the products they are selling, how they were made, where they came from.

Giving them brief sales talks they could use on customers.

Telling them the points of difference between the ordinary grade of gasoline handled at the station and the company's

SPRING has started the highway parade again. The advance guard of that long column have already passed the first turn of the road. And following closely upon their dust is the main body—campers, tourists, short-riders and picnickers; in roadsters, touring cars, sedans and trucks—some bent on errands of business, some merely heeding the call of the open road.

They're using millions of gallons of gas and oil; thousands of pounds of grease. It's not all MARATHON, but a lot of it is. And if you sell MARATHON, more of it will be. That will mean a new customer for us and many new customers for you.

Let's get together before the parade is over.

GASOLINE—
Uniform, clean and spunky.

KEROSENE—
Pure, sweet and water white.

Motor and Tractor Oils
Steam Cylinder Oils
Engine and Dynamo Oils
Refrigerating Oils
Diesel Oils
Turbine Oils
Neutrals
Bright Stocks
Cylinder Stocks
Fuel Oils
Wax
Grease

TRANSCO OIL F
A non-chattering lubricant for Fords.

Lubrication for every purpose.

MARATHON PRODUCTS

TRANSCONTINENTAL OIL COMPANY

Executive Offices:
Benedum-Trees Building, Pittsburgh, Pa.

Sales Offices:
Atlanta, Chicago, Des Moines, Fort Worth, Muskogee, Okla., New York, Pittsburgh, Sioux City and Tulsa

Refineries:
Boynton, Bristow, Fort Worth

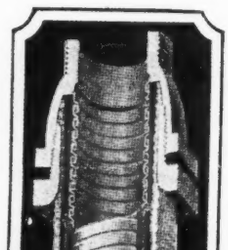
Warehouses at convenient shipping points.

18 Sales Centers Make Rex Hose and Couplings *Quickly Available*

IN order to give you SPEEDY DELIVERIES, we maintain these 18 Rex Service Centers Not only are REX Couplings and REX Hose backed by an unqualified GUARANTEE—but they are quickly available and that means a lot in an emergency.

Next time you need new hose or couplings, wire to the following:

Baker-Smith Co., Call Bldg., San Francisco, Calif.
J. R. Dufresne, 570 Howe St., Vancouver, B. C.
E. R. Wallington, L. C. Smith Bldg., Seattle, Wash.
J. R. Guild, 427 Henry Bldg., Portland, Ore.
L. J. Bradford 136 E. Broadway, Salt Lake City, Utah.
C. M. McIntosh, 311 McClintock Bldg., Denver, Colo.
O. A. Smith, 443 S. San Pedro, Los Angeles, Calif.
John Cunningham, Jr., Vicksburg, Miss.
R. N. Friel, 3000 Grand River Ave., Detroit, Mich.
W. C. Hughes, 515 Commerce Bldg., Columbus, Ohio.
A. Y. McDonald Mfg. Co., 1201 Dodge Ave., Omaha, Neb.
A. Y. McDonald Mfg. Co., Minneapolis, Minn.
Mid-Continent Equip. & Mach. Co., 319 N. 4th St., St. Louis, Mo.
W. H. Schaeffer & Bro., 843 10th Ave., New York City.
Standard Steel Works, North Kansas City, Mo.
C. C. Stapleford, Raleigh, N. C.
Fred T. Watson, Nashville, Tenn.
Chicago Tubing & Braiding Co., Chicago, Ill.



CROSS SECTION showing construction of Rex Hose and Coupling.

We've got some literature that tells all about Rex-Tube Gasoline Hose and Rex-Bell Couplings. Write for It.

Chicago Tubing & Braiding Co.
260 N. Clinton St. Chicago, Ill.

STANDARD TANKS

Dependable Steel Storage

Welded or Riveted-Welded Construction

Underground or Above Ground Installations

FILLING or BULK STATION

65 to 25,000 Gallons Capacity
UNDERWRITERS' SPECIFICATIONS

Large Stocks Immediate Shipments

The Standard Boiler & Plate Iron Co.
Niles Ohio

high test product so that its sales could be pushed.

Arranging for good display of oils and greases through window displays or outside racks and convenient methods of dispensing them to the motorist.

Preparing and furnishing to the station man well prepared sales literature on the company's products which he can pass out to the motorist to back up his own sales talk.

Using billboard space at its own stations to carry the message of the quality of its products to the motorist while he is at the station. How many times do you see billboard advertising adjacent to a station for many other commodities placed there to catch the eye of the man passing the station, or visiting it, in which latter case he should be most open to appeal of oil advertising?

Giving the station man the facts when oil prices change so that he can give his patrons an answer that convinces them such price changes are warranted by economic conditions in the industry. In how many cases is the station operator left without any weapon of facts to parry the jokes or sarcasm from motorists when gasoline prices advance?

Furnishing the station operator with capacities of gasoline tanks, of principal makes of cars, so that he may know how much motor fuel he may suggest the motorist taking.

Teaching him to get the jump on the motorist by saying, "Shall I fill 'er up?" or "How about 10 today?" or five as the case may be, before the driver has a chance to tell how many he had in mind buying.

Urging him to push coupon books and making it worth his effort by some means or other, to push his own sales of coupon books.

Showing him the importance of learning to know his regular customers by name as quickly as possible—by looking it up from the license number if necessary—and showing the customer the deference that just naturally pleases a regular patron. Commenting on the appearance or performance of his car is another way to warm his heart.

Encouraging the station man in his off hours to visit the business places and homes near the station where trucks or cars are owned, getting acquainted and soliciting their business.

Making the station man acquainted with something of the company's history, its properties, what fields its products come from and so on, so he can answer intelligently the questions his patrons may ask about the company.

Instilling into the station operator the importance of looking the part of a salesman rather than simply a gasoline and oil vender. While he may wear the company's uniform his outfit should be presentable and his hands and face clean.

Finally, having his relations with and standing in the company that of a salesman rather than a station attendant. Making him feel that the company's advertising and sales program is directed to help his work at his station.

Jobber Must Know His Own Product Before He Can Sell It

Staff Special

MINNEAPOLIS, May 7

KNOWING your line is of fundamental importance to successful selling. It does not matter whether you are selling lubricating oil or something else. It does not matter whether you are selling it under your own brand or not. How many oil jobbers really know the oil business? Present company excepted—the average oil jobber is not worthy of the responsibility placed upon him; and correct lubrication of expensive machinery is a responsibility.

When someone engages a doctor, for example, he does not go to a man who just happens to be in the business, or whose office is conveniently located, or solely because he is a good fellow. He finds a doctor who is able and experienced. And able and experienced are those who constantly study, discuss their problems with fellow doctors, attend clinics, and keep in touch with results obtained through patient and painstaking research carried on by men who are giving their lives to the study and development of medicine. When an efficient doctor makes a recommendation it is the result of considerable thought and study, coupled with experience. A man of this sort doesn't wreck human machinery by prescribing sewing machine oil, when castor oil is the correct recommendation.

This same argument applies to men of all vocations whether they are doctors, lawyers, bankers, or oil men. Study, research, experimentation and the feeling that you are at least approximately right are the things that make your business interesting and worth while. If you know your business and have a reasonable amount of judgment, you can't help but succeed. You may be able to make money by proceeding blindly, but making money alone is not success. Real men like to occupy positions of responsibility, and to have the respect of their fellow men.

Be Your Own Judge

Carefully read your trade papers, invest in one or two good oil handbooks, send for government bulletins and specifications, equip your office with various oil testing devices, and you will begin to grow in length, breadth and depth. Your business will be placed upon a higher plane, and you will make greater profits than your competitor who thinks he is growing when he expands through leasing pumps, rebating and paying fictitious rentals.

In Milwaukee there are 16 companies handling both oil and gasoline, and this list includes several of the largest refiners in the world. Four Independent companies out of the 16 handled almost exactly 50 per cent of the entire business last year according to oil inspection reports. To the best of my knowledge these were the only four companies that did not indulge in irregular trade practices. This is good proof that if you know your business and your costs, and have set policies and high principles and stick to them, nobody can stop you.

The only thing that limits the growth of a business is the size of the men back of it. Why cater to the price buyer? He means trouble for you from the start. The public, as a general thing, is looking for good merchandise, properly priced, coupled with efficient service, and will stay with you as long as you take care of it.

Strive for Uniformity

We are principally interested in automobile oils, because they represent the larger portion of our oil business. Nationally advertised oils generally represent oil made from one crude, such as Texas, Mid-Continent, or Pennsylvania, or they may be made from a heterogenous conglomeration of many crudes refined at one plant. If you handle nationally advertised oils you can take your pick from the above classes, but you will find that scarcely two of them will be alike, grade for grade. One company's medium oil is another's heavy, and in some cases one extra heavy is another's medium. Comparison of five of the most widely advertised oils in this territory will bring out this point.

In spite of objections I am going to consider the viscosities of these oils at 210 degrees F. because the temperature of the oil at the connecting rods, wrist pins, and the lower part of the cylinder walls is not much below this under average operating conditions.

Perhaps the most widely advertised medium oil has a viscosity of approximately 60 at 210 degrees F. Let us grant that this is the correct body for a medium oil. It is about what General Motors recommends for Buicks and Cadillacs for summer use.

Do Not Compare

The second nationally advertised oil has a viscosity of 47 at 210 degrees F. for medium, and 59 at 210 for extra heavy.

The third brand of oil averages 47 at 210 for medium, and 58 at 210 for extra heavy.

The fourth nationally advertised oil shows 47 at 210 for medium and 51 at 210 for heavy.

The fifth line of oils has a 50 at 210 medium, and 65 at 210 for heavy.

Now certainly at least three out of five of these famous oils are improperly graded as to body, because there is a radical difference in all but two cases. The two oils which are somewhat alike are made from Texas crude; the principal difference being that one line is red and the other pale. The only way a Buick or Cadillac owner could lubricate his car on these nationally advertised oils would be to have a specially prepared table so he would know whether to ask for light, medium, heavy, or extra heavy oil to get the correct grade recommended by the manufacturer of his car.

Independents to Agree

We, as Independent jobbers doing, as a whole, about half of the oil business in the country, really ought to get together on uniform specifications. The National Petroleum Marketers' Association, Society of Automotive Engineers and General Motors Corp. are working on this problem, and it is up to us to co-operate, so that when a car owner buys Independent medium he gets a medium oil. In a general way it seems to be agreed that a light oil should have a viscosity of from 45 to 50 at 210; Medium 55 to 60 at 210; Heavy 75 to 80 at 210; Extra heavy 100 to 115 at 210, and a special extra heavy of from 130 to 150 at 210 for certain types of tractors, motorcycles and aeroplanes.

If all members of all oil jobbers associations will co-operate in standardizing oil specifications it will be a great help to the Independent oil industry, which is rapidly becoming a powerful factor and influence in all matters pertaining to the production, refining, and marketing of petroleum products.

A Plea For Uniformity

W. A. McMillan of the Lindsay-McMillan Oil Co., Milwaukee, made a vigorous plea for uniformity of product among all Independent jobbers when he delivered an address on April 22 in Minneapolis before the Minnesota Petroleum Association. His subject was "Selling Your Own Brand of Lubricating Oil," probably the year's most popular subject among oil dealers and one Mr. McMillan is well able to discuss. Part of his address is reproduced herewith—Editor.

The Pride *of serving*

REFINED BY THE MAKERS OF TAGOLENE

Oil Dealer Demonstrates Reception Appropriate For Burglars

By W. K. Halbert
N. P. N. STAFF WRITER

CHICAGO, May 8

SERVICE station operators have to be something in the way of property defenders in this age of hold-up men and burglars. Recently such outlaws have centered their activities upon the service stations of the suburbs, letting the all-night restaurants and outlying theatres have a little peace.

In one respect a service stations falls in the class with the other two businesses named. Individual sales are small and mostly for cash; patronage must be handled quickly because business stacks up at certain hours of the day. Therefore at certain known hours a fairly large amount of cash may be found on hand at service stations, theatres and restaurants. Usually they are not over well protected against robbery. And of the three, service stations are more numerous in the outlying districts.

Without a good built-in safe or a nightwatchman, service station operators can not leave their stations at night and feel comfortable about them. Especially is that true in the fall of the year when the youthful floaters and jobless way journers begin to feel the pinch of their own lack of frugality and wonder what has become of their summer's wages. These are the days when amateur burglars abound.

One of the most thrilling stories of adventure recently published in Chicago papers, developed at a surburban service station not long ago. The hero, in this case, was a man whose business history has been reviewed in National Petroleum News before. His name is Oscar J. Kulle, and he operates three service stations along the famous "North Shore" suburban and residential district of Chicago. For a couple of years his stations were called "Mavers Stores" but he has since been operating under his own name.

From the U. S. Navy

Mr. Kulle is a Spanish-American war veteran and served 21 years in the United States Navy. He was discharged with the annuity of a Chief Petty Officer at the close of the war with Germany and it so happened that he got his papers at Great Lakes training station just north of Chicago. Immediately he showed his business acumen. He took his life's savings, bought possibly the best service station site between Chicago and Milwaukee, and erected thereon a filling station, following the architectural lines of an excursion boat, complete with radio aerial and flag pole.

In the subsequent three years of Mr. Kulle's business career, he has prospered, as small businesses do prosper when they are watched and well managed by persons who do not spend all they make. Now Oscar J. Kulle & Co. has three stations on prize locations in the North Shore section. But the romantic part of the story is that C. P. O. Kulle never encountered any pirates in all the 21 years of his seagoing life until he started running oil stations. Now he cites a black flag often.

It was only a few weeks ago that this genial "Gob" jobber was returning in his launch "Buick" from a meeting of the Spanish American War Veterans and had to drive by one of his own stations. Through the mist that overhung the North Shore (mists nearly always overhang the North Shore) he saw a dim light in his station; so he hove up alongside and climbed a-board, going through the window he found open, his suspicions were confirmed. There was a "thug" in the hold of the steamboat service station. This was the situation that brought up the thrilling scene.

Mr. Kulle nosed about until he satisfied himself that he was the only man on the street-level deck. It was too cold in the rigging for robbers, so he knew he had the burglar (or burglars) corralled in the basement. Next he frisked himself for a nickel and found none. He has a (5c in advance) telephone in the station so without a nickel he couldn't call the sheriff.

A Sail, a Sail, a Nickel

Just at this crucial moment a Ford pulled up alongside the station and honked "Ahoy" for some New Navy 58-60 437 e. p.

Patronage at that dead hour of the night was the last of Kulle's thoughts. He had no key to the pumps, not even to the station itself. He climbed out again through the port hole and mooched a jitney off the skipper off the newly arrived Ford. There were only two people in the car—both men.

"Will you two fellows stand one at each window of this station and guard them?" asked Kulle. "I will call the sheriff with this nickel. There is a burglar in the basement. Will you guard the windows?"

"Yes sir, we will. Like Hell!" they said, driving away in a big cloud of dust, carbon monoxide and Lake Michigan mist. "You are welcome to the nickel."

With a misgiving or so, Kulle climbed back through the window to the telephone. When once he heard the sound of his own voice in the dim lonely station he grew bold.

"Hello sheriff. I have a burglar cornered in the basement of the service station at Belvidere and Waukegan. Come quick! If he sticks his head above the gun-deck I'll shoot it off. Goodby." Kulle had no gun. That was ever bit military propaganda. That "crack" about shooting somebody's head off was all for the benefit of that portion of his audience in the basement.

Presently the man in the basement tried strategy, and sent up a wireless offering terms. "Mister, I surrender" he said, "Let me come up. I've got a sick wife and a game leg and three hungry children, and I was just down here in your basement looking for a couple of frankfurters and a loaf of bread."

"How many are there of you in the basement?" asked Kulle, his heart softening at the tale of woe.

"Cross my heart, only me, sir," replied the voice at the foot of the hatchway.

"All right then. Come on up." Kulle had weakened.

Scramble for the Gun

Hands first then head, then shoulders, appeared about the floor as the intruder came up the steps. But the intruder was no dumb-dora himself. He saw at a glance that Kulle was standing there holding a piece of gas pipe in his hand—his only weapon. So he promptly reached to a pocket that was farther down than the level of Sheridan Road and produced a vicious looking six-shooter. Kulle knew he had been kind to the wrong fellow, but this was no time for restrospection. It was time to do something. And he did.

The property owner took a plunge at the burglar, grabbing for the revolver. It was an accident, Mr. Kulle admits, but he got his little finger back of the trigger and inside the trigger guard. The gun would not go off then, so it became a scramble for possession of the side arms.

Down the steps they rolled and into the basement, first one on top and then the other. (Details omitted of what took place and was said in the grease and dust on the basement floor.)

When 30 minutes later the sheriff arrived, Kulle was sitting on the main deck of his service station with a robber's gun in his hand. The robber sat calmly by awaiting results. He didn't know whether Kulle was going to shoot him before the sheriff got there or wait and make a public execution at sunrise, according to the 96th article of war. Neither happened. The sheriff took him and Kulle went home to his hammock.

The Power of Right

In the court room, a few days later, the two men who had staged a lonely hand-to-hand were viewed side by side. The robber was six feet two, and broad enough. Kulle is not much over five feet six and tips the scales for 140 pounds. It had been no even match in the service station. The man was given a sentence of from one to 20 years in the reformatory at Pontiac, Ill., time depending largely on good behavior.

NEW OIL STATION CONSTRUCTION

Bemidji. Minn.—Peoples Oil Co., is offering stock to people in community for purpose of obtaining money for building bulk and service stations at Thief River Falls, International Falls and Walker, Minn.

* * *

Barron, Wis.—Barron County Oil Co. of Chetek, Wis. to erect filling station. Company operates stations at Chetek, Dallas, Rice Lake, Canton and Cameron, Wis.

* * *

Galion, O.—Johnson Oil Refining Co. erecting service station, to be ready for business by May 15, according to H. R. Hartley, division manager at Mansfield, Ohio.

* * *

Mitchell, S. D.—Two service stations are being built here, one for C. P. and Gerhard Goplerud, and the other for W. Seaton and son, Dwight.

* * *

Rapid City, S. D.—Standard Oil Co. plans building filling station here. It is erecting one at Lead, S. D.

* * *

Davenport, Ia.—W. H. Beenks to build filling station. M. J. DeLacy seeks permit for filling station.

* * *

Deer River, Minn.—Itasca Oil Co., composed of Itasco county stockholders, to erect filling station.

* * *

Glencoe, Minn.—Fenske & Bailey building filling station, handling Cities Service products.

* * *

Paris, Tenn.—B. F. Diggs, general manager of Paris Oil Co., erecting service station.

* * *

Grand Forks, N. D.—Standard Oil Co. of Indiana purchased property for filllng station.

* * *

Chaska, Minn.—John T. Roufs, of Roufs Garage, building service station.

* * *

Monroe, Wis.—Standard Oil Co. of Indiana buys site for service station.

* * *

Red Wing, Minn.—Standard Oil Co. of Indiana erecting service station.

* * *

Clarissa, Minn.—White Eagle Oil Co. purchased lot for filling station.

* * *

Junction City, Kan.—Chauncey Dewey erecting filling station.

* * *

Farmington, Minn.—M. C. Campion to build service station.

* * *

El Paso, Tex.—H. M. Morra to build filling station.

Miami, Ariz.—Maurel & McQuade erecting service station on highway in west end of Miami, and have plans for a station at Globe, Ariz. They handle Speedene products, made by Rio Grande Oil Co., Los Angeles.

* * *

Rochester, Minn.—Standard Oil Co. of Indiana building its fifth service station. Rochester Oil Co. and Black Hawk Oil Co. also building service stations.

* * *

Winchendon, Mass.—Central Gasoline Co., a new distributing station started by the owners of the Winchendon Gasoline Co, is expected to open by May 1.

* * *

Rockwood, Mich.—White Star Refining Co., Detroit, has leased property at Rockwood for service station.

* * *

Merrill, Wis.— Wadhams Oil Co. and Standard Oil Co. of Indiana each building service station.

* * *

Sioux Falls, S. D.—Lake Park Oil Corp., building bulk and service station at Letcher, S. D.

* * *

Spring Valley, Wis.—Standard Oil Co. of Indiana bought corner lot for service station.

* * *

Onida, S. D.—G. H. Hortman to build filling station, handling White Eagle products.

* * *

Mingo, O.—C. S. McLister granted permit for filling station on Commercial street.

* * *

Storm Lake, Ia.—J. J. Flohr to build $2,000 filling station at 700 Michigan av.

* * *

Findlay, O.—Paragon Refining Co. to erect filling station at Arlington, O.

* * *

Hannibal, Mo.—National Refining Co. purchased property for service station.

* * *

Heimeston, Ia.—Herman Richard leased property for filling station.

* * *

Neligh, Neb.—Sinclair Refining Co. seeking site for filling station.

* * *

Onawa, Ia.—Standard Oil Co. of Indiana building filling station.

* * *

Wolf Point, Mont.—Motor Sales Co. installing filling station.

* * *

Champaign, Ill.—William Kidd to build filling station.

* * *

Cedar Falls, Ia.—R. A. Santee to build filling station.

South Rockwood, Mich.—Andrew Poupard building service station, to handle Standard Oil Co. of Indiana products, according to D. W. Metzger, agent here for the Standard.

* * *

Storm Lake, Ia.—T. W. Warfield, formerly manager of White Eagle Oil & Refining Co.'s service station here, is opening a service station at Schaller with local men.

* * *

Adrian, Mich.—J. H. Bettis erecting service station, handling Marland products, which are distributed by Oil Service Co., this city.

* * *

Prophetstown, Ill.—Carl Marvel to build modern filling station. Illinois Oil Co. to install new tanks and warehouse.

* * *

Salem, O.—E. C. Sheen erecting service station at Garfield & 4th st., to handle Cities Service gasoline.

* * *

McComb Miss.—Standard Oil Co. of Kentucky purchased two plots of ground for service stations.

* * *

Stephens, Ark.—Standard Oil Co. of Louisiana to replace its old filling station here with new one.

* * *

Harrisonville, Mo.—George Swain erecting filling station, to be known as "Log Cabin Inn."

* * *

Eaton, O.—White Star Oil Co., with offices here, is erecting filling station at New Paris, O.

* * *

Alexandria, Minn.—Glencoe Oil Co., new concern, seeks permit for filling station.

* * *

Blytheville, Ark.—O. D. Grimes to add filling station to his grocery store.

* * *

Storm Lake, Ia.—Lloyd Benedict bought property for filling station.

* * *

Knoxville, Ia.—Standard Oil Co. of Indiana enlarging service station.

* * *

Paola, Kan.—Robert L. Tracy purchased site for filling station.

* * *

Alliance. O.—Sinclair Refining Co. building $30,000 bulk plant.

* * *

Plankinton, S. D.—Guindon Bros. building service station.

* * *

Delphos, O.—Johnson Oil Co. to build service station.

* * *

Eldora, Ia.—Spencer Wood building filling station.

Develop Personality and Originality in Selling Motor Oils

SELLING your own quality of oils is too big a subject to treat with in its entirety in half an hour, or even half a month. I would like to impress you with the importance of careful deliberation; of considering problems peculiar to your own business, instead of jumping at conclusions which I fear is done too often.

"If I were to ask why you are in business, the reply in many instances would be, 'To make money.' The thought is perfectly right and decent, but it is not enough. Too often businesses are conducted with that thought only.

Because they wanted to make money easily was the reason for many filling stations springing up over night when margins were good, established by persons inexperienced in oil and in business in general. Many of them are not only losing money but are keeping others from making it.

"Often a salesman in making application for a position with us, when asked why he wants to sell oil, answers in effect; 'Because everybody uses it and it seems to be easy to put over.' But usually he is not employed. He might as well have said 'It looks like easy money.'

"However, when an applicant in answer to our question says 'Because I have been watching your business with interest. I believe in your policies and your products and I believe I can sell them.' other things being equal, you can just bet we are for him.

"This man wants to make money, the same as the other, but he will be satisfied to sell his trade the right way. He has a conception of what is necessary to build a permanent business. He is conscious of the responsibility and accepts it, and his accomplishments will be far superior to those of the other type of salesman. Thus he gets what the other man wants but is unable to have except in a very limited way—money.

Money is not First

"We often think in terms of money in a way that defeats our own ends. Sometimes we are guilty of certain practices which yield a temporary profit but destroy confidence, and thus arrest development and jeopardize permanency. And in the ultimate we fail to make the success our opportunities afford.

"You are in business for success, measure it in any terms you wish. What are you doing to procure that success; selling oil? No; many of you are only furnishing it to those who happen to patronize you. You must sell, not your wares only, but a reason why the trade should buy yours in particular. You must supply a quality that you believe will serve them satisfactorily, and you must believe in your product. For you can not truly sell that which you yourself are not truly sold on.

"If employed salesmen must have a plan of action, you certainly must have one, and govern your business accordingly. As a result of deliberating over a definite policy to adopt, many of us will become better acquainted with our own businesses. We may be surprised at the number of things we did not know about it before. And many helps will suggest themselves which may well be put into practice. Most emphatically, adopt only such policies as you can believe in, for how can you expect to sell anyone else, if you are not sold yourself?

"In giving thought to some definite policy, many sales helps will suggest themselves. In fact therein lies your sales talk and line of action. Conclusions you reach while building your particular policy, to a great extent, are your own reasons why the trade should buy from you instead of somebody else.

What Carries Conviction

"If you were called upon to discuss something, what could you discuss most forcefully, a subject you are thoroughly acquainted with, or some other topic? It needs no answer. Also, is it not true that the more reasons you have for believing what you say, the more forcefully you can talk. It is the same with your employees and yourself in selling the trade on your products or your house. And the same psychology holds good in advertising.

"The word psychology is often overworked and abused. Nevertheless we must recognize certain psychological forces or we can not hope to have the qualifications necessary to combat concerns that are well advertised nationally, and place ourselves on a par with them. The trouble with many of us is that we simply try to follow something the national advertisers are doing. Naturally we are beaten when we play the game according to the other fellow's rules.

"When we are confronted with great problems, too many of us are inclined to think it requires something exceptional to solve them. In reality the remedy often lies not so much in the conclusion we reach as in the way we carry out our decisions, how diligently, how forcefully, how consistently.

"Watch the other fellow, of course, but don't do all your thinking about what he is doing. Study rather how you are going to put your own policy into effect. The force of this psychology is unfathomable in its extent. Soon the public becomes familiar with your product and the manners of your house, in doing business. And more and more will your personality inject itself into your community. (I do not mean your individual personality so much as the personality of your establishment.) That is your stock in trade.

Can Excel in This

"You are in much better position than the national advertisers to inject this personality into your local territories, both through salesmen and through local advertising. Herein lies your big advantage. You can use certain methods in getting this across that would not be fitting to them. We will pass over that however, for it is a subject in itself.

"Above all be 'Individual.' Do not ape or copy, for that will never develop a distinctive personality in business. If it is done right, you can strengthen your business personality so that it will more than offset the advantages that national advertisers have. It will not then be a question of how to sell your own quality oils against them.

"Some of you may think the national advertisers have the advantage with the touring trade. Your have the advantage with the local trade, and if you are a well established local concern with a good reputation, many tourists would rather take a chance on your products than to buy some nationally advertised product. There are instances in which well advertised articles are favorably

Follow Nobody

HOW the Independent jobber can develop business for his own brands of lubricating oils was the subject of an address by L. W. Jaeger, Bartles-Shepherd Oil Co., Waterloo, before the Independent oil men of Iowa at their last convention. Pertinent excerpts from his remarks are published herewith. His text might be expressed in the words of Henry Clay, "Be sure you are right and then go ahead."

"Handle a product you are not ashamed to recommend.....Develop a way to handle it that you know is a good way.....Collect all the reasons why people should buy your product instead of some other.....Develop more reasons why.....All the time you are building up a policy.....Believe in your policy yourself.....See to it that your salesmen believe in it.....Put it in your advertising and make the public believe in it. .....Don't copy after anybody."

recognized by the consuming public, but they are not always so recognized. On account of ordinary or possibly inferior quality, some nationally advertised brands have lost much of their prestige.

Summing It Up

"To be able to sell your own brand of lubricating oil you must adopt a policy. N company is too small to have one. and you must believe most implicitly in your policy.

"Be original, particularly in handling local affairs, for thus you may have a distinctive business personality.

"Sell confidence and personality, not your product alone, but back up the claims made for the quality of your product.

"Do nothing that may tend to destroy confidence.

"Watch details, because it is the dovetailing of details that constitutes your policy.

"Inject your personality into your territories through your sales force and advertising. And work.

"As I see it, our advantages all summed up are about even with those of the national advertiser. The national advertising itself, which is by no means a small factor, is on their side, and the advantages of personality are on our side. I might add also that we are on the ground floor personally to direct our affairs, especially the salesmanship that best fits our local territories."

Check Room For Babies New Station Idea

SAVANNAH, GA., May 8.—Now it's parking space for the Baby! That's the latest feature incorporated in the new service station of the new firm of Morrison-Boller Tire Co. of this city.

A well-appointed rest room for ladies on the second floor of the station, has been equipped with conveniences and amusements for the baby whose mother is embarking on a shopping tour downtown. Two "kiddy koops" with which to keep baby contented until mother returns, have been installed. A maid has been furnished for this department. Women may rest and read in the room while their cars are being worked on and facilities are provided for washing up after a dusty trip on the road.

The station is advantageously located at the corner of Bay and Fahm Sts., on the direct route of the South Carolina road. The ground floor is devoted to a display of tires and a rest room for men. A separate garage is provided for the company's service truck. This new truck is fitted out with an air pump and every convenience for the motorist in trouble.

Wesley W. Morrison and Carl P. Boller comprise the firm, with Mr. Boller in charge of the new station. A gallon of oil was given away free of charge to every purchaser of five gallons of gasoline on the recent opening day.

Oil Companies Show Interest In Auto Laundry Business

CHICAGO, May 11.—Service to the motorist that is quick and desirable, and for which satisfactory prices can be collected, has been developed in the automobile laundry business. There are several competitive systems on the market, varying considerably in price to the man who wants to install one, but as far as the prices of service to the motorist are concerned, they are all about alike.

The service that these competitive systems offer the public is about the same too, but they differ as to length of time in which it is possible to clean a car, and by some plans it is easier and takes less work than by the others.

But automobile cleaning plants are coming to be popular among oil jobbers. In many ways the car-washing business fits itself conveniently into the service station business, but it is not an adjunct like a drainage pit or a greasing rack. It is a business by itself. Among the oil companies that have gone in for car cleaning as an addition to their business, are the Vetterly Brothers, Michigan City, Ind.; the Consumers Co-operative Service Station, Youngstown, O.; the Armould's Oil Co., Hamilton, Ill.; the R. S. Moore Oil Co., Elgin, Ill.; the National Independent Oil Co., York, Pa.; Byron F. Williams Oil Co., Houston, Tex.; and the Boerlin & Wright Service Co., St. Petersbrg, Fla.

One system which has attracted a great deal of attention in the middle west recently, is licensed by territory. The manufacturers allow only one laundry to a given territory, the size of the territory depending on the number of cars registered. When an oil man buys this system he has exclusive use of it in a specific region.

Large garages also have begun to install auto washing systems, and it seems to be a "toss up" as to which of these two very different industries eventually will claim automobile cleaning as a part of itself. Right now the field is clear.

Oil Man's Side

Oil men appear to believe they have a right to take the idea over and capitalize on it for several reasons. Garages are coming more and more to specialize on storage and repairs. The storage garage is the kind that bids strongest for the washing business, for automobile repair shops are real machine shops in this age of the world, and they have little time for giving unusual services. But unusual service has been the oil man's forte, for a long time.

Since the coming of the service station, oil jobbers have been giving the motorist service. The motorists look to the oil men for service, from habit if nothing else. The average automobile needs washing oftener than it needs repairs and the motorist sees his oil station oftener than he sees his garage. Thus the oil men stand a chance to get more out of the laundry business than does a garageman.

An auto laundry takes up quite a lot of room, and oil men have more room than the average garage. A washing plant, if put up correctly and equipped to dispose of lots of business, is as big an institution as a five or six pump service station. One plant will give car washing service to all the automobiles served at a dozen or more service stations, and then by doubling its manpower can double its capacity. Obviously an auto laundry is not a thing to put up in the back yard of a busy or crowded filling station.

Pulls Both Ways

Each one of a dozen service stations should be a good puller to an auto laundry. An oil jobber can solicit his customers' patronage for a car washing plant as an added service and every customer be a live prospect—for what motorist loves to wash his own automobile, especially in the winter when it needs it most. He can solicit this business by direct mail, through the newspapers or with cards handed out at service stations. But on the other hand, the auto laundry is sure to serve cars of persons not regular customers and is thus a puller for the oil business; for a laundry is a good place to make friends with the man who drives an automobile.

On the same lot with a good service station, if there is room, or in a nearby building, is a good place for a car cleaning plant but the proximity is not necessary. They have been found to work well in places removed from any of the oil man's stations. In fact there are laundry stations prospering in Chicago as separate institutions, not a part of any garage or any oil business. The Ridge Auto Laundry at 5971 Ridge Ave., for instance has neither gasoline nor oil to sell. It sells nothing but cleaning service. It uses what is known as the Klean-Rite system, which licenses its equipment to operate.

Incidentally that Ridge Auto Laundry is a model institution in many ways. Fortunately the building which houses it has an entrance on two streets. An automobile comes in at one end of a street-level compartment 25 x 150 feet, and goes out the other as clean as new. This entrance on two streets is fortunate but not necessary one entrance might be on an alley, and even in this place there is room to turn an

Tractor Oils!

Our RED and GREEN TRACTOR OILS are outstanding for their superior qualities. RED TRACTOR has a clear, clean appearance, with low cold test; makes starting easy and perfectly lubricates while tractor is under its heaviest load. They are recommended for early Spring, late Fall and Winter use.

Our GREEN TRACTOR OILS have unusual heat-resisting, viscosity and wearing qualities for long, heavy pulling. The cold test is higher.

There's always a real sales appeal to tractor owners when Triple "C" TRACTOR OILS are called to their attention —for several good reasons, the most important of which is the prevention of worn-out bearings and breakdowns. The bugbear of tractor operators is faulty lubrication. They know that good oil is the answer and they are especially responsive to a high grade, dependable tractor oil.

That's why jobbers are so successful with Triple "C" TRACTOR OILS. You can stamp these with your own label and guarantee, knowing they will make good and reflect your reputation for top-notch products.

We have a very attractive proposition to offer those who want to build up a permanent business with products bearing their own name. Let us tell you about it.

Samples If Desired
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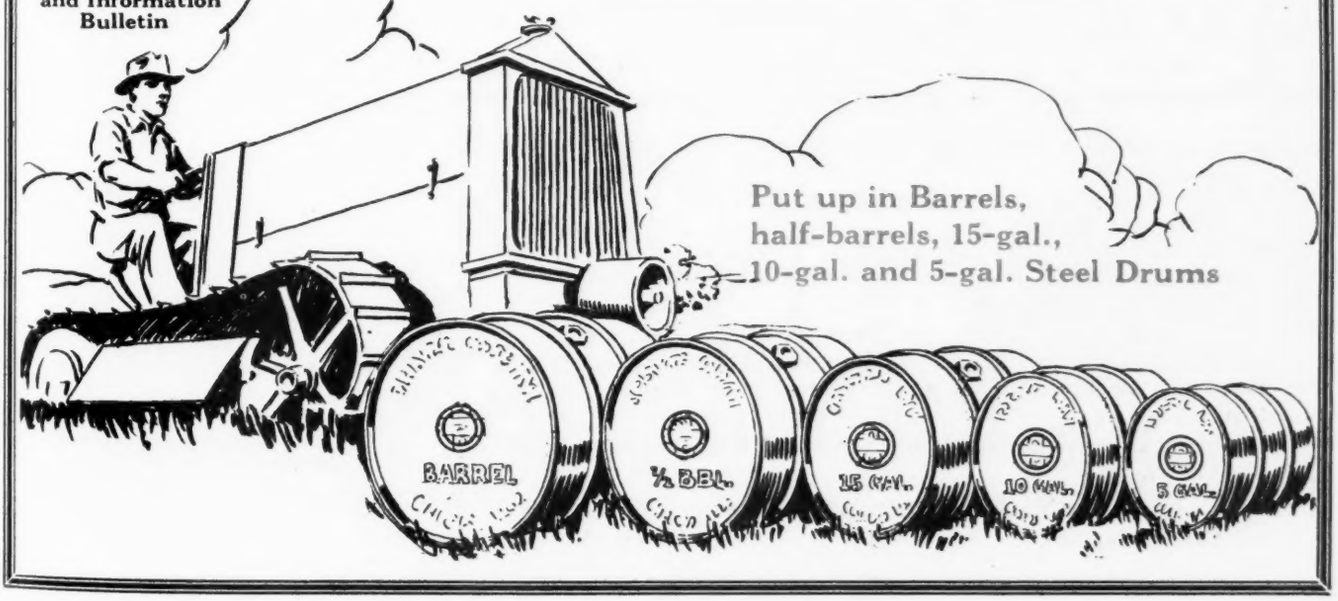

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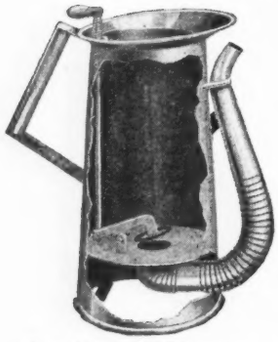

Brookins Oil Measure

Brookins Steel Price Chart

Fits directly on pump. Complete price range in each set.

The Brookins Gasoline Can

carries without spilling or splashing. The flexible metal hose reaches any gasoline intake without a funnel.

Let Your Customers See What They're Getting

Most car owners stick religiously to one brand and one grade of oil. That's why they want to see the kind of oil they're getting—why they object to previously filled containers and why they like to patronize stations equipped with Brookins Measures.

The Brookins Measure permits the car owner to see his oil drawn from a properly marked oil pump.

The Brookins, in one operation, serves from one to five quarts of oil, easily, rapidly and accurately. It can't overflow because of the specially designed lip. The flexible metal hose reaches any oil intake, without a funnel. The thumb-valve controls the flow.

You need a complete set of Brookins Measures in one, two, four and five quart sizes. Order from your jobber today. If he cannot supply you, write us.

The Brookins Mfg. Co.

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Brookins
SERVICE STATION EQUIPMENT

Brookins Measures are Service Station Treasures

automobile if it were necessary. But the double entrance expedites business.

Equipment is Thorough

Just about all the requirements of automobile cleaning have been taken into account in locating this equipment. When a car enters the back door of this laundry it is halted just inside. The first operation is to clean off the top. Water is never put on the top because it drips after the rest of the car is dry and tends to spoil the job. The top is first swept and then wiped off with a mop containing a little cedar oil. This task is performed by one man standing on a platform 4½ feet high, accessible by steps.

The next performance is a "big blow-out." Air under a pressure of about 100 pounds is introduced into the car through a small hose with a pinch-cock on the nozzle. With this pressure, cushions, upholstery, top lining and rugs are completely aired and dusted. The pressure is so strong that it can be made to blow a carpet entirely out of a car, even if it is snapped down. While the top is being wiped and the trimmings cleaned, kerosene is applied to the motor under pressure, loosening all the rust and dust particles which are blown away with the air pressure when the motor is being dried.

When these three performances are finished the car is rolled out over the washing pit. This pit is 10 feet wide or more, more than a car-length long and varies in depth from 4 to 4½ feet. The walls are four feet deep and the floor drains to a catch-basin sump in the middle, emptying out into a sewer. Two narrow bridges form the track upon which the car stands over the pit. The men stand down in the pit to do their work, their eyes about on the level with the fenders.

Job of 15 Minutes

Washing a car in this position with the equipment at hand is a demonstration of marvelous speed. Four men can work at once; one at each quarter of the car. Sunken electric lamps in the walls of the pit throw light to every part of the chassis and under side of the machine. At each corner of the pit is a hose, one for each man, and at the will of the operator, cold water, hot water, soap solution or air can be applied to the machine through the same hose. A simple manifold regulates what comes out at the nozzle. With four men working a car can be run out of the plant perfectly clean and dry in 10 or 15 minutes.

Cold water is stored in two 850 gallon tanks which are drawn from alternately. In as much as the water has to come out under pressure the tanks must be kept separate, one is allowed to fill from the city mains while the other is under pressure and in use. The air is supplied with an automatic shut-off air compressor with which every service station man is familiar. A tested air tank of about 150 gallons capacity is kept under 100-pound pressure all

Field Methods

are described in detail by Messrs. Cox, Dake and Muilenburg in their book entitled FIELD METHODS IN PETROLEUM GEOLOGY.

It tells about the instruments commonly used in field work and instrument methods employed; the personnel of the field party; the actual field procedure; the preparation of the map and final report.

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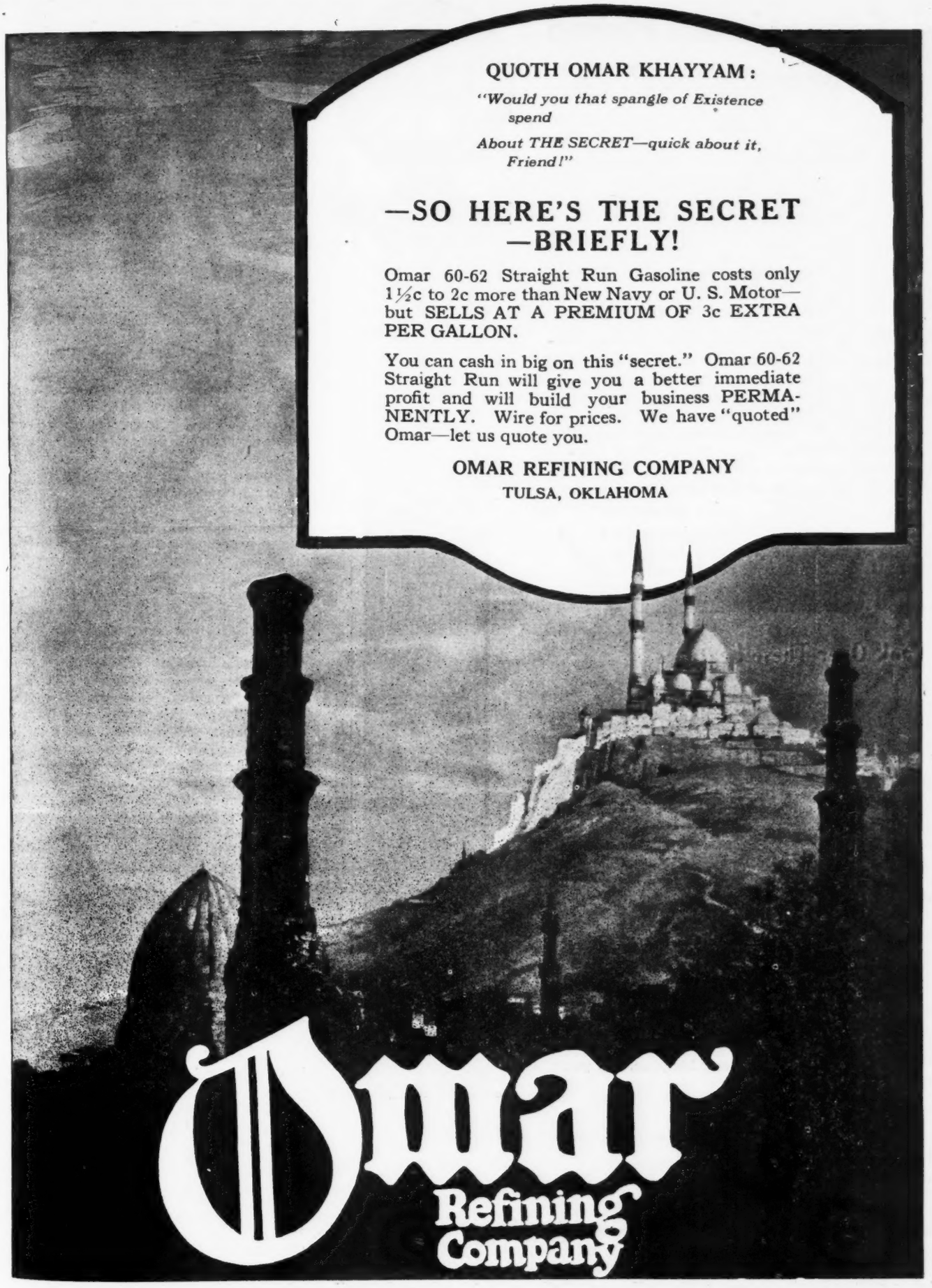
National Petroleum News

823 Caxton Building **Cleveland, Ohio**


QUOTH OMAR KHAYYAM:
"Would you that spangle of Existence spend
About THE SECRET—quick about it, Friend!"
—SO HERE'S THE SECRET —BRIEFLY!
Omar 60-62 Straight Run Gasoline costs only 1½c to 2c more than New Navy or U. S. Motor—but SELLS AT A PREMIUM OF 3c EXTRA PER GALLON.
You can cash in big on this "secret." Omar 60-62 Straight Run will give you a better immediate profit and will build your business PERMANENTLY. Wire for prices. We have "quoted" Omar—let us quote you.
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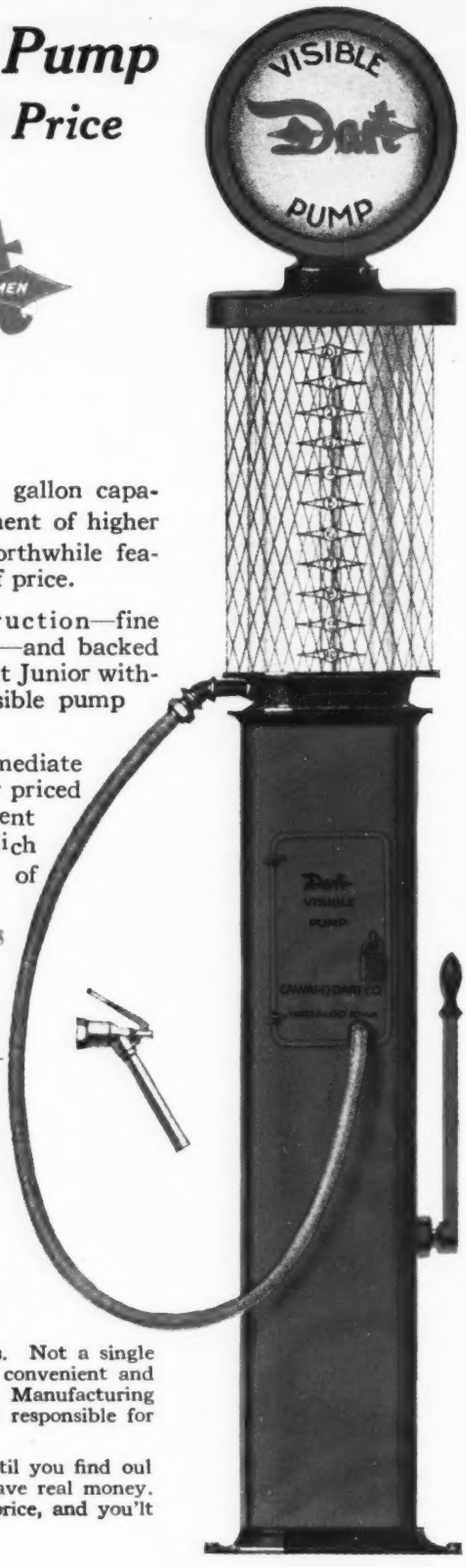


NOW—a visible Pump of 10 gallon capacity—with every improvement of higher priced equipment—with many worthwhile features of its own—at an unheard of price.

Of large and massive construction—fine appearance—remarkable accuracy—and backed by a *broad guarantee*. The Dart Junior without doubt leads the world in visible pump value.

The Dart Junior fills the immediate demand of oil companies for lower priced pumps. It enables the replacement of absolute equipment with that which is most modern—at a minimum of expense.

Look Over These Features

Oscillating Type—now used by most leading builders of pumps. All foot valves are eliminated.

Measuring markers are adjustable—may be moved and sealed by inspector.

Equipped with latest Morrison Self Closing Hoze Nozzle—light in weight—easy to handle—durable construction.

Handsome advertising globe with electric light.

Guaranteed in every way to be equal in action, construction, operation and durability with the highest priced pumps.

The DART JUNIOR Visible was designed by experienced oil men who know the pump requirements of filling stations. Not a single feature essential to dependable, accurate, convenient and economical operation has been sacrificed. Manufacturing economies and smaller profit margins are responsible for this revolutionary price.

Do not place your new pump orders until you find oul about this DART JUNIOR. You will save real money. You'll be surprised at the extremely low price, and you'lt be delighted with its performance.

Write for Complete Description and Price

Gaward Dart Company

Mfg's of Dart Visible Pumps & Motor Trucks "Built by Oil Men-for-Oil Men"

WATERLOO, IOWA

the time, for drying purposes and also to boost the water and soap solution.

The soap solution is kept in a two-barrel tank. Twelve pounds of soap will make enough solution for a day's work. The hot water is procured by leading city water through a simple heating plant in an adjacent room. It is stored in the auto laundry in two 150-gallon tanks under pressure, and the tanks are used alternately, like the cold water.

A Mechanical Job

After all the real drudgery has been done by water, soap and pressure, the car is rolled from over the pit and stopped on a platform just in front of it. There the last operations take place. There is a certain amount of sponging to do and the wind shield and windows have to be gone over with chamois skins, but this is quick work. Kerosene is applied under pressure to all the metal parts where paint is missing and rust appears to have taken hold.

Body polish also is applied to the car under air pressure, but this time through an atomizer which applies it in much the same way that a paint gun or an air brush works. The rest of the space, in the nearly 4000 square feet in this establishment, is used to store cars. There is room for two or three, which is necessary because owners do not always wait for the job to be done.

Although the idea in this establishment has been to reduce the car washing business to a "Service While You Wait" basis, it can not always be so. At certain seasons of the year the automobile washing business falls off, like the gasoline business. Then the trade will only justify two men in the pit perhaps, and in that case it will take 20 or 25 minutes instead of 10 or 12. The Ridge Auto Laundry is owned by a partnership consisting of A. Hasslar and J. L. Reinhart. They took the precaution early in the season to prevent anybody from bringing a Ford and taking away a Packard, by evolving a combination billing and checking system.

The bill is a perforated card, each end carrying duplicate numbers. The car owner takes one and the other is tied to the car like a parking space check, but in addition to that the bill for the work is written on the check attached to the car. Prices for car washing run from $1.50 to $3 as shown in the following price list, but extras run up as high as $20 in some instances. The price list follows:

Washing Service

Class A Touring	$1.50
Class A Closed	2.00
Class B Touring	2.00
Class B Closed	2.50
Class C Touring	2.50
Class C Closed	3.00

Extra Service

Polishing	$ 1.00	$ 2.50
Simonizing	7.00	14.00
Vacuum	1.50	2.00
Top Dressing	1.00	2.50
Khaki Tops	5.00	7.50
Interior Cleaning	10.00	20.00
Motor Cleaning	1.00	2.50

Fresh Paint and Posies Lift Jinx From Unprofitable Station

By N. M. Mainpa
N. P. N. STAFF WRITER

CLEVELAND, May 9

HAVE you ever wondered why that one particular service station of yours, or perhaps several particular stations, just somehow fail to attract the motoring public to its gasoline pumps when your other stations are doing a good business? That, although it is advantageously located, has pleasing and courteous attendants, who are willing to serve your customers, it just simply fails to invite the customers in the first place?

How one such station, operated in a suburb of this city by the Cities Service Oil Co., had always been in a class by itself in that it never had been profitable; had never done enough business since it was established to return a profit; was transformed almost over night, into one of its best paying stations, increasing its gasoline sales about 30 per cent within a day or two, is told by Laurence B. Davis, supervisor of service stations for that company.

Mr. Davis was graduated from Massachusetts Institute of Technology, and was initiated about three years ago into the oil business as salesman for Crew Levick Co. at Boston. Later he was transferred to Providence, R. I., and promoted to district manager of the Crew Levick. From there he came to Cleveland to the Cities Service Oil Co., about eight months ago to "chase troubles," as he puts it Two months ago, Mr. Davis was appointed to his present position.

The station, which is located at Rocky River, a suburb of Cleveland, a very unpretentious structure, stands opposite a garage. Those motorists who might ordinarily have stopped there to buy Cities Service gasoline because they favored the brand, were not aware that the station belonged to the Cities Service Co., but believed it was operated by the garage close by.

Some time ago, after Mr. Davis had become supervisor of stations, an investigation was started to learn the reasons why this station had never paid.

A man was hired who knew the neighborhood well and who knew almost every resident thereabouts by his first name. He liked to daub paint over the place with a liberal hand, keep the grass and plants well cared for, and the entire station and grounds in as neat and attractive condition as possible.

This attendant was supplied not only with plenty of paint, white wash and other equipment with which to improve the appearance of the station but also with authority to go ahead and do whatever he thought necessary to attain results.

In the place of the drab, obscure and indifferent station that motorists had been accustomed to see, the next morning they were greeted by gleaming, white-washed pump islands, drain racks, drives, and even white-washed curbs bordering the station lot. Just how effective is a generous application of fresh paint, and how much of an impression white-wash makes on the eye, is proven by figures. Next day, when the station was dressed up "in its Sunday clothes," an increase of 30 per cent was made in gasoline sales over any previous day in its history. Because white is always attractive when it is kept clean and spotless and hits the eye harder than perhaps any color, or color combination, the company has just begun painting all its service stations white. They have been of gray stucco, trimmed in black, with orange and black pumps and white islands, drain pits, and so on.

One point any casual observer would notice readily at Cities Service stations is the strict conformity to its color scheme. All oil cans have orange labels with black lettering, harmonizing with the pumps and the company's trade mark. Just recently Mr. Davis conceived the idea of placing a row of uniform sized oil cans in front of the station, on the island between the pillars of the canopy, where they stand out well against the white of the station and the pillars, and where no motorist driving into the station can fail to see them. This idea resulted in the sale of more cans of motor oil in the past two months than in any one year, according to Mr. Davis, who believes that this attractive and eye-compelling display in a prominent place where it cannot escape the attention of the motorist, is far more successful than if the display were placed in some obscure corner where the customer is not apt to look.

A little salesmanship on the part of the attendant when he is filling the customer's gasoline tank usually results in the sale of a can. This probably is due to the fact that the customer can actually see these cans, see them standing in a neat attractive row where they sell themselves. Buying that which appeals to the eye is a human weakness, and when an oil can ceases to be merely an oil can, with the help of gay labels, and an attractive display, it goes without saying that this is an improved method of selling motor oil. It is better than simply to ask the customer whether he wants any oil today, without giving

WHITEWASH, NEATNESS SELL GASOLINE FOR CITIES SERVICE OIL CO.

LOOKS actually mean something to a service station, something that can be expressed in volume of business done. Improved appearances do not necessarily mean increased expenditure. The accompanying story tells how a little paint and whitewash increased business 30 per cent at one service station.

This is the time of year to take up annual flowers and put in the perennials. A complete list of those suitable for service station planting was carried on page 90 of the April 1 issue of National Petroleum News. Any tubbed plants now growing may be taken from their winter quarters now, and should be given liquid manure.

Dahlias may be planted in holes, setting the plants several inches below grade to allow for filling in soil as they grow. All summer flowering bulbous plants may be set out. To assure a continuous supply of gladioli, plant bi-weekly. If the weather is settled, the bedding out of geraniums, cannas, salvia, coleus and other bed-plants may be safely started.

Just before the flowering season begins in the garden, it is good practice to top-dress the beds with bone meal and rake it in.

After flowering, deutzia, forsythia, spirea, snow ball and other early shrubs should be pruned.

The edges of walks, flower beds, drives, shrubbery borders, etc., should be trimmed neatly with a turfing iron every three or four weeks.

Keep the tall flowers supported with individual stakes, the grass edges clipped and remove old stalks from the bed.

Formal evergreens and hedges should be clipped now. Hedge shears are the best tools to prevent any voids in the trees.

him any idea what the package may look like.

The cleanliness that is a part of all Cities Service stations is obtained by constantly keeping after the attendants to do their duty along this line, but most of them now perform the necessary chores about their respective stations of their own accord, because they have found that it really is an important factor in increasing sales.

All the stations are given two coats of paint twice a year. Two men are hired to do nothing but the painting, one for the outside painting and one for the inside. A spraying machine is used for this work, which permits one station to be painted in about two days. The pumps are kept shiny, being painted once a month by the station attendants.

White-washing oil and grease pits is done three times a week, also by the attendants, which keeps them in clean condition.

The white wash used by the Cities Service does not come off in the rain, because Mr. Davis has learned that an addition of 10 or 15 per cent of ordinary coarse table salt, in proportion to the white-wash used, makes it stick and gives an attractive crystalized appearance, which is always so impressive and helps the motorist to hook up this extensive use of white with Cities Service stations.

When the regular white paint did not prove satisfactory for use about the station because it turned yellow, and the white-wash which was used previously on pump islands was not a success because it would rub off on customers' clothes, Mr. Davis experimented with white "street-marking" paint and found it satisfactory because it dries in about 15 minutes, stays white and does not rub off. After all the stations have been painted white they will be hosed twice a week to keep them free of stains and spots.

Grease stains that are inevitable about an oil station, are removed with the regular grade of gasoline which the company sells for motor fuel. This has proven successful but a chemical half the price of gasoline is being considered at present for this purpose.

Rules for cleanliness are observed in side the stations as well as outside. No papers or junk litter the floors and counters. Cans are arranged in neat fashion about the walls. A drip pan, with a measuring can resting in it is placed beneath the nozzle of each oil drum to catch drippings, so that no grease-stained floors nor puddles of oil can result.

Electric lights inside of the white drain pits, as well as those above them, make the pits a brilliant spot at night. This helps the oil and grease sales, making it easy for motorists to see where they are driving and just as convenient to have a car oiled at night as during the day.

Visible Vender Handles Motor Oil in Original Packages

NEW YORK, May 8.—A new method has been devised by the Galena Signal Oil Co. for bottling, transporting and vending lubricating oil.

The oil is bottled at the refinery in bottles 21 inches long, each holding a quart. They are sealed and shipped in a metal crate, similar to milk bottles. At their destination they are put in a visible vender which holds 20 tubes—this revolves in front of a light, the customer seeing exactly what oil he is buying and he gets it in an original sealed package.

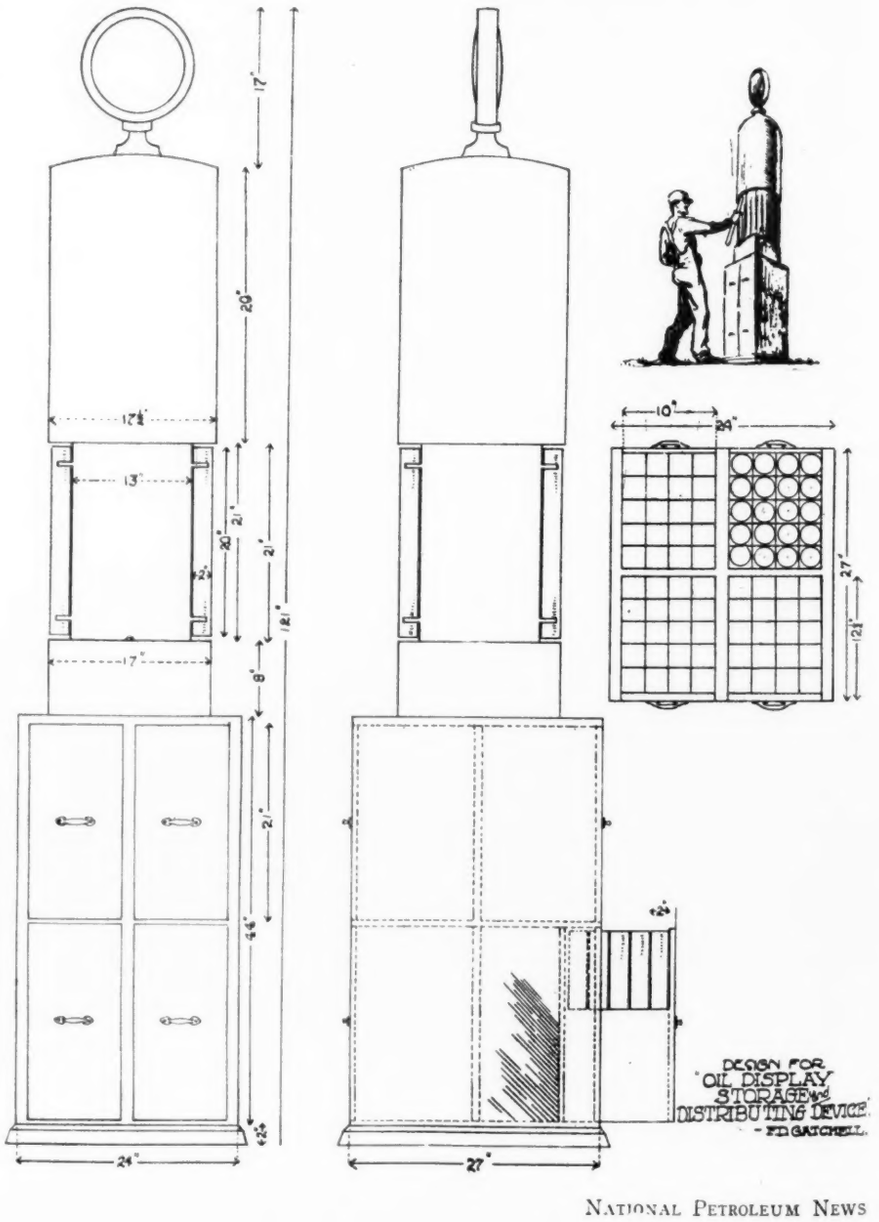
The tubes are of the easy-pour type and when empty can be placed in the crate and returned to the plant for refilling. The illuminated vender makes a most attractive display at any station and it eliminates substitution.

Eight different grades of oil can be displayed at one time and underneath the vender is storage for 40 gallons in packages.

Similar systems have been used for a number of years in other lines of business but the Galena Signal Oil Co. is of the opinion that this visible vender system is the nearest approach to the original sealed package idea in the oil industry.

FARMVILLE, VA.—Brickert Oil Co. is adding the third drive-way and third pump to its station here, in preparation for handling ethyl gasoline distributed by the Standard Oil Co. of New Jersey in this territory according to J. C. Brickert, owner and manager.

The office and accessory department will also be enlarged to better handle the company's increased business, Mr. Brickert reports.



A Full Gasoline Tank in Most Cases Means an Easier-Riding Car

By Paul Truesdell

N. P. N. STAFF WRITER

CLEVELAND, May 11

IF THERE is any jobber who has never puzzled his head and perhaps lost a little sleep over the cause of the "five-gallon habit" among his customers, and ways and means to get them out of it, let him hold up his right hand.

No hands go up.

Every jobber knows that, other things being equal, the customer seven times out of 10 when asked, "How many?" will promptly answer, "Five gallons." And this doesn't apply only to the owners of Fords and other cheap cars, either. It goes from the tin lizzie right up to the top of motordom.

Every jobber, too, has probably instructed the men on duty at his filling stations to avoid giving the customer a chance to say "five gallons" by asking him, "Shall I fill 'er up, she'll take about 10 gallons?" thereby making it easier for the customer to fall in with the suggestion than to oppose it and stick to his song "five gallons"

Undoubtedly there is a good deal of merit to this plan of putting up to the customer a positive suggestion rather than letting the customer make his original decision himself but it isn't always possible to talk the buyer out of his attitude of "five gallons." In many cases it is deep-rooted. Of course, there are times when the average sale of gasoline doesn't total even as much as five gallons. Sometimes the average for a long time will run only two or three gallons.

This is usually easy to account for. In a mill town or an industrial town of any sort, where the bulk of the population consists of factory and shop workers whose wages are comparatively small, any depression in the industrial situation is instantly reflected in gasoline sales.

But what is it that causes the driver of the Pierce-Arrow or the Packard or the Cadillac or the Marmon or the Studebaker or the Buick to drive into the filling station with a tank capable of holding 15 or 20 or 24 gallons with only two or three gallons in it and say: "Gimme five gallons?" and then stick to it despite the efforts of the man at the pump to get him to fill up the tank? And what makes the owners of Fords and Chevrolets and Stars and Dodges do it, that is those that are far enough above the bread line that they don't have to worry about a few pennies?

Most of them do it.

The cost of selling 10 gallons or 15 gallons is so little more than the cost of selling one or five gallons that it is practically nothing. It would be interesting to know how much greater the jobber's margin of profit would be if he could make all his sales in units of 10 and 15 gallons instead of in units of two and three and five gallons but there is probably no way to figure it. It would be considerable because serving the motorists in big units would reduce the general selling expense of the station a whole lot.

When the Customer Says "Gimme Five Gallons" Tell Him—

That a car with a full tank rides easier than one with the tank half full.

That a full tank always is insurance against having to walk after gasoline.

That his springs are designed to carry a full tank so they won't suffer.

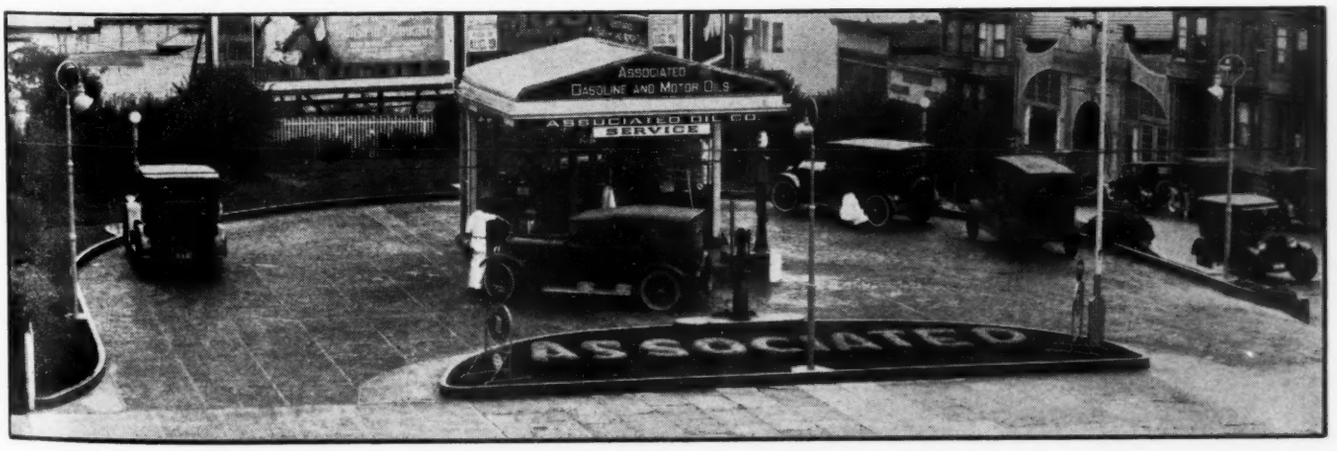
That he won't use a bit more gasoline by keeping his tank full.

But to get back to the buying habits of the motorist. Why doesn't he keep his tank full all the time when he can afford it, instead of going along with only a few gallons in the bottom of the tank and buying five gallons at a time when he is afraid his engine is going to die of starvation?

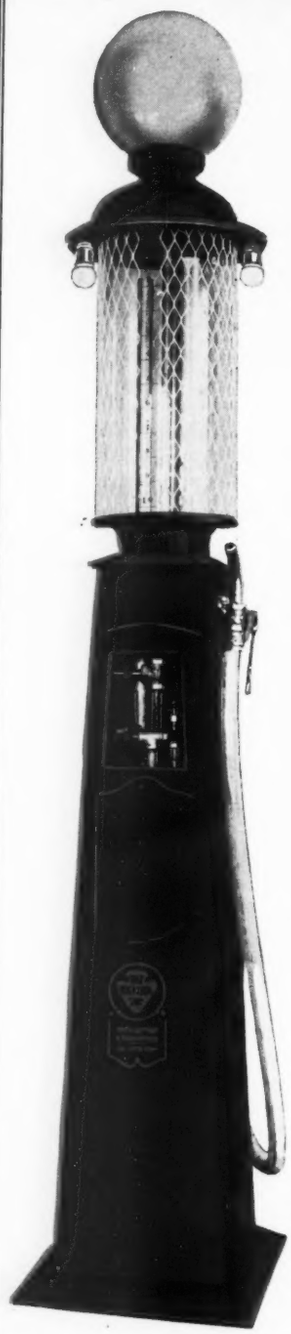
There may be more than one reason but considerable light was thrown upon the notion held by many motorists in conversation with a man the other day. This man drives a Cadillac car. He holds a high position in a flourishing business and he is successful in his job.

In talking, he mentioned that he was in the habit of buying five gallons of gasoline at a time. The Cadillac uses a lot of gasoline and he was reminded that if he kept on running with a little in the tank, it was only a question of time when someday the thing would fool him; when he wouldn't buy his five gallons quite soon enough and he would have to hike down the street afoot with a gallon can in his hand.

It was pointed out to him that if he would keep the tank full, putting in what it would hold every time it got down a little, he would not use a bit more fuel and he would have insurance



Note how well the shrubbery surrounding this modest service station of the Associated Oil Co., San Francisco, sets off the station itself and shuts out any unsightly view behind. The word "Associated" in the foreground is spelled with shrubbery. The building itself is small and compact and placed on the lot to be least in the way of the motorists



Arrow Visible Pumps

A 10-gallon pump of highest quality and workmanship, built in the hand operated straight air lift and combination hand-and-air lift.

The Arrow pumps embody the most modern and up-to-date features in service station equipment. They are speedy in operation and accurate in the delivery of gasoline.

We have a complete line of service station equipment and sell direct to the oil trade. By this method of marketing we are able to put a very attractive price on our equipment.

Write us for Bulletins and Prices.

Wichita Pump and Equipment Co.
701 East Gilbert St.
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"National" Guaranteed Coupon Books

have the official recognition of
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Write for Samples and Prices to

FROM COAST TO COAST INDEPENDENT OIL

National Checking Co.
St. Paul - - Minn.

against having to hoof it after gasoline some day.

"Yes," he said, "That's true but I don't like to overload the springs by carrying that big tank full of gasoline all the time, you know 15 or 20 gallons of gasoline weighs a whole lot."

Here Is One Answer

And there is one of the answers to the "five gallon" habit. Since this conversation we have talked to others and have found several who are nursing the same notion.

It is a mistaken notion on two counts.

1. A tank full of gasoline doesn't weigh as much as motorists think it does.

2. When you drive with your tank half full or a quarter full you are not getting quite all the benefit out of your springs that the designer of the car intended you to get.

It is a funny thing, gasoline is the most sensitive spot in the motorist's mind. He will pay a high price for his car and a fierce price for everything he has done on it and he won't kick much. He will pay a high price for tires and do no more than growl. But at an increase of a cent or two a gallon in the price of gasoline, which will cost him at the most $4 or $5 or $6 on a year's operation of his car, he will scream.

And in the same way he will blame the weight of a tank of gasoline for wearing out his car unduly by putting too great a load on the springs.

Let's consider this weight argument. How much does a tank full of gasoline weigh anyhow? Gasoline varies in weight, of course, but probably a fair average would be six and three quarters pounds to the gallon. That means that 10 gallons weigh a little less than 68 pounds. So a man with a 20-gallon tank on his car, who drives all the time with 10 gallons in it, would be adding a weight of 68 pounds if he kept the tank full all the time.

It would be a poor set of springs that couldn't stand the added weight of 68 pounds on a big car. And that added load of 68 pounds would give the driver assurance against having to walk after gasoline.

Consider the weight of a spare tire. We don't know what it is but we would be willing to bet that a spare tire with its rim, on a big car, will weigh as much or more than 10 gallons of gasoline. Yet does any motorist who drives a big car hesitate to carry a couple of spares with him all the time?

He does not, and what are the spare tires except insurance, the same as the extra 10 gallons of gasoline would be?

Springs Are Stiffer

And as a matter of fact, coming to the second point, not only is the motorist not overloading his springs by carrying a full tank of gasoline, but in most cars he is actually, underloading them, so they are too stiff to give as

easy riding qualities as their designer intended.

Just to see whether there was anything at all in the notion that a full tank overloads the springs, we sent out letters to the chief engineers of a number of automobile companies, asking them whether their springs were designed to be at normal with spare tires and all equipment in place and the tank full of gasoline, or whether their normal load was calculated with the gasoline tank empty.

We got nine replies covering a wide range of cars. The Dodge was the cheapest car in the number and the Pierce-Arrow the most expensive. All of them said either that the riding qualities of the car were improved by a full tank of gasoline or that the amount of gasoline in the tank made no appreciable difference—in other words, nobody need think he was overloading his springs when he kept his tank full of gasoline Here are the answers received:

Pierce-Arrow

Our spring specifications are developed to take care of the full weight of the car. This means a full number of passengers, a tank full of fuel, a spare tire etc.

"It is a fact that if springs are developed to take care of a fully loaded car when this car is only partially loaded the springs will be somewhat stiffer than necessary. The extra weight caused by a tank full of gas as compared with a tank half full does not impose any material labor on the engine.

"It is also a fact that the ability of a car varies with the passenger load or the total weight of the car and that the variation between a tank full of gasoline and one half full would hardly be noticeable.

"However, owners would be safer to keep their gas tank as nearly full as possible at all times."

Cadillac

"Our spring suspension is calculated for a car fully loaded with passengers and also carrying spare tire, full tank of gasoline, water and full complement of tools."

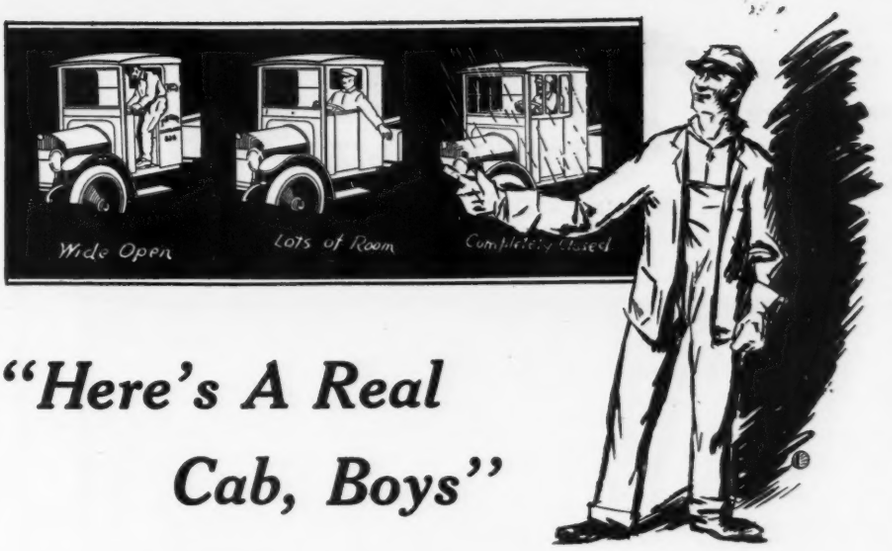
Packard

"The spring suspension of our cars is based on the best compromise offered in riding qualities between the normal passenger and equipment load and the full passenger and equipment load and insofar as the riding qualities or performance of the car being affected by the quantity of gasoline carried in the tank, there would be no perceptible difference."

Paige

"We always consider the weight of our car empty as including full equipment spare tire, gasoline tank full etc.

"If the riding of the springs is so delicate that the difference between an empty and a loaded tank is sufficient to effect the riding qualities it is time that a change be made in the springs.



"Here's A Real Cab, Boys"

Hop in fast, and you don't bump your elbow; no center pillars to do it.

No curtains to come loose and flap after you have tied them up several times.

No hinged doors to bang back and forth, getting in your line of vision, making it more dangerous to drive than in a HIGHLAND CAB, where the doors *slide* out of sight.

You see "that other car" in time to avert a collision and yet you are not cooped up in a hot, stuffy cab with poor ventilating qualities. The clear vision wind-shield full ventilating type, swung on extra heavy hinges so it will stay put, sure is a dandy.

In stormy weather, you are "snug as a bug in a rug" in a HIGHLAND CAB, and when summer comes it is wide open, breezy, cool and clean.

There Is A HIGHLAND CAB To Fit Your Truck.

The Highland Body Manufacturing Co.
430 Elmwood Place, Cincinnati, Ohio

Reading 400# WSP Steel Globe Valve

Reading steel gate valves look simple. They *are* simple. Yet each valve embodies 15 special features worthy of your consideration as a valve user. Write for illustrated booklet.

Reading Steel Casting Co., *Inc.*
Reading Valves and Fittings Division
Bridgeport, Connecticut
Offices and Warehouses in Principal Cities

READING *for steel*
PRATT & CADY *for iron and bronze*
specializing for quality valves and fittings

OILCO
PUMP ENAMEL

A Gasoline and Oil Resisting, Water Proof, Weather Proof Enamel.

AS A Marketer of Gasoline you fully realize that a well painted and attractive pump will sell more gasoline. Why not use OILCO PUMP ENAMEL? "It is Gasoline and Oil Resisting."

Designed especially to withstand the action of gasoline, oil and gasoline fumes which prevail in and around filling stations. Ordinary industrial enamel soon loses its lustre and attractiveness when subjected to gasoline, oil and gas fumes.

Oilco Pump Enamel may be washed repeatedly without destroying its extreme brilliancy.

Brightest colors, most lustrous enamel on the market. Pure color pigments ground to the finest texture insure you of extreme depth of color, hiding power and covering capacity.

Furnished in brilliant (non-bleeding, non-fading red), standard red and all trade colors.

Made on honor—sold on merit. Dedicated to the petroleum industry exclusively.

The Stewart Bros. Paint Co.

Alliance **Ohio**

Oil And Grease Formulas

200 formulas, modern in every particular, have been prepared in a simple, non-technical style by Forrest A. Hoff.

They are of value to the refiner, jobber, compounder, broker and lubricating engineer.

Just attach your check to this ad and return it to us now. $50 is the reasonable cost of all this valuable information. **Synopsis sent upon request.**

National Petroleum News
830 Caxton Building **Cleveland, Ohio**

The writer's habit is to keep the tank as near full as possible. In general most cars do not carry their full rated passenger load and in this case if the gasoline tank is full, the owner will come nearer to having a comfortable riding car with the tank full than with it empty."

The Stearns engineers while asserting that the extra weight of a tank of gasoline is nothing to worry about either way, advance another reason for not filling the tank full and they believe also that the reason for most motorists, without regard to their prosperity, driving with their tanks half full is financial. Here is what they say:

Stearns

"The gasoline tank is not taken into consideration when working out the proper springs for our cars. Our large six carries a 24-gallon tank while the smaller one takes a 16-gallon tank. The weights of the two sedans ready for the road are 4400 and 3700 pounds respectively. You can readily see that it matters very little how much gasoline is carried in relation to the weight and riding qualities. In fact it is not always desirable to carry a full tank as there is generally a tendency for the gas to slop over with the attending possibility of fire.

"The writer believes that the reason most people carry a small amount of gasoline is entirely financial. To illustrate—if a man has only a five and a one-dollar bill and only expects to use five gallons of gasoline during the week, he naturally will only buy five gallons and not break a larger bill, for the average person finds that after breaking a bill larger than a dollar, the rest goes entirely too easy. I believe that is the real reason."

Chrysler

"It is our custom when calculating springs to figure the total weight of the car, that is full of oil, water, gas and carrying spare tire and tubes plus an average five-passenger load at 150 pounds per person.

"It is safe to assure you in the case of any car that the question of whether or not the gas tank is entirely full would have no appreciable effect on the springs. Certainly this variation in weight would not be great enough to produce a liability of spring breakage if the springs were otherwise safe. The percentage of weight variation thus acquired would only amount to five or six per cent of the load required.

Hupmobile

"O. K. to carry full or empty tank and varying passenger load."

Cleveland

"The weight of the car is always figured as shipping weight which of course is always empty but another weight often used both for calculation and other information is known as the road weight which is full of gas, oil, water, spare tire and tools. This weight

is used for calculating specifications on chassis springs, tires etc."

Dodge

"All of our spring calculations are based on full passenger load and with gasoline, water and oil equipment as far as strength factor is concerned; but it is our aim to experimentally determine riding characteristics that will be a satisfactory compromise between full passenger load and driver only."

General Motors engineers did not give us the information as to their cars and Mr. Ford did not tell us how he figures his spring specifications, but the answers given above, of course would apply equally well to all the other cars.

Steam Lines Keep Oil Flowing Freely

CASPER, May 8.—An interesting feature has been worked out at a station of the Aero Oil Products Co., in Casper. This is the use of steam lines to keep the oil flowing freely in cold weather.

Under the pagodas, an oil pump is located between the two gasoline pumps on each of the islands. When the station was being designed, it struck L. A. Miller forcibly that outside was the place to have the oil dispensing equipment, not inside, thereby saving steps for the station salesman and time for the motorist.

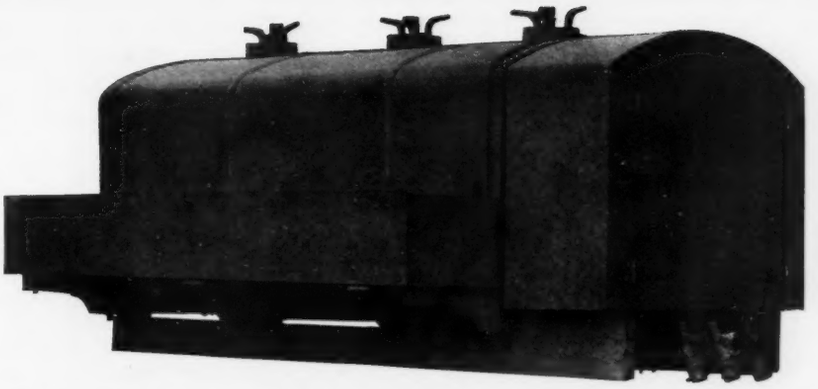
However, with the temperature that Casper enjoys in winter, a heavy oil would just about have to be chopped with an ax rather than flowed through a small pipe. He decided that the way to do would be to run the oil line to the out door pump alongside a steam line.

The steam line, 2-inch diameter, was laid beside the inch and a quarter oil line, in a conduit under the concrete driveway. The conduit can be entered by a man from the cellar of the station so that it is easy to make repairs to the pipes if necessary.

The Aero Oil Products Co. with headquarters in Cheyenne, operates five filling and six bulk stations at Cheyenne, Casper, Wheatland, Rawlins and Rock Springs. It has just bought the Park to Park filling station at Wheatland Wyo. which it will operate.

CAIRO, NEB.—L. C. Highland recently opened a bulk station here and has taken over the distribution of Waverly products in this district, according to E. R. L. Boyd, district manager at Wichita, Kan. for the Waverly Oil Works Co.

TULSA,—J. A. McCulloch, of the oil equipment department of the A. Y. McDonald Manufacturing Co., Dubuque, Ia., has been in Tulsa the past week, calling on the trade.



300-350-400 Gallon MULLINS SUPER-WELDED Truck Tanks

Quantity Production — Low Price

Made to the same specifications as our large Truck Tanks.
Double Heads between Compartments—Separable Construction.
Best grade, well seasoned oak sills, bolsters and can platform.
Sills are adjustable for all models.
Hinged Panel Can Racks, Bucket Box of White Wood.

Carried in Stock — Immediate Shipment

MULLINS BODY & TANK CO.
47th Ave. & Rogers St. Milwaukee, Wis.

THE KEYSTONE CAN RACK
The Outside Store that catches the Hurrying Motorist

The Keystone Can Rack is built to sell the canned products of the oil industry, Oils, Greases, Soaps, Alcohol, Polishes, Radiator Cements, anything in cans. It's a Show Case on wheels.

Being portable it is easily run in at night.

It's good looking and attracts trade.

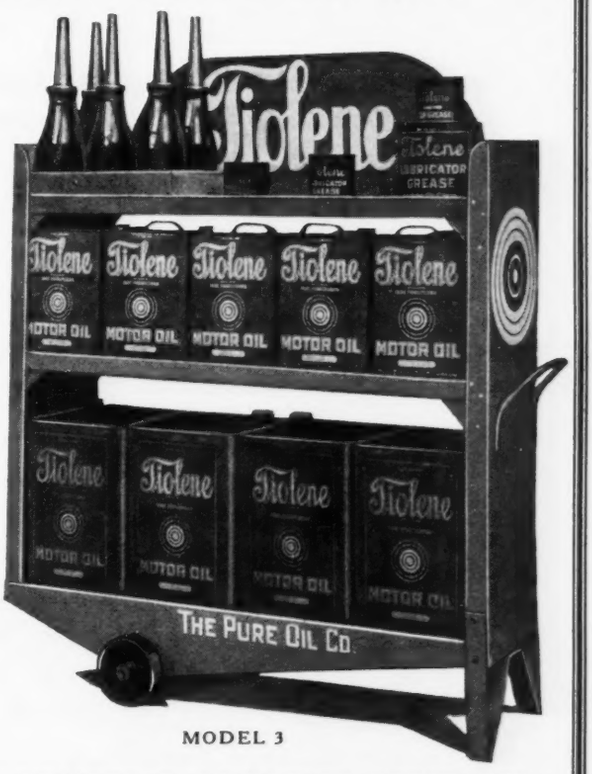
It's a fine advertising medium. Has stuffer pocket for road maps and fliers.

Built in three models, finished in any one color of oil resisting enamel.

A SALESMAN THAT NEVER SLEEPS.

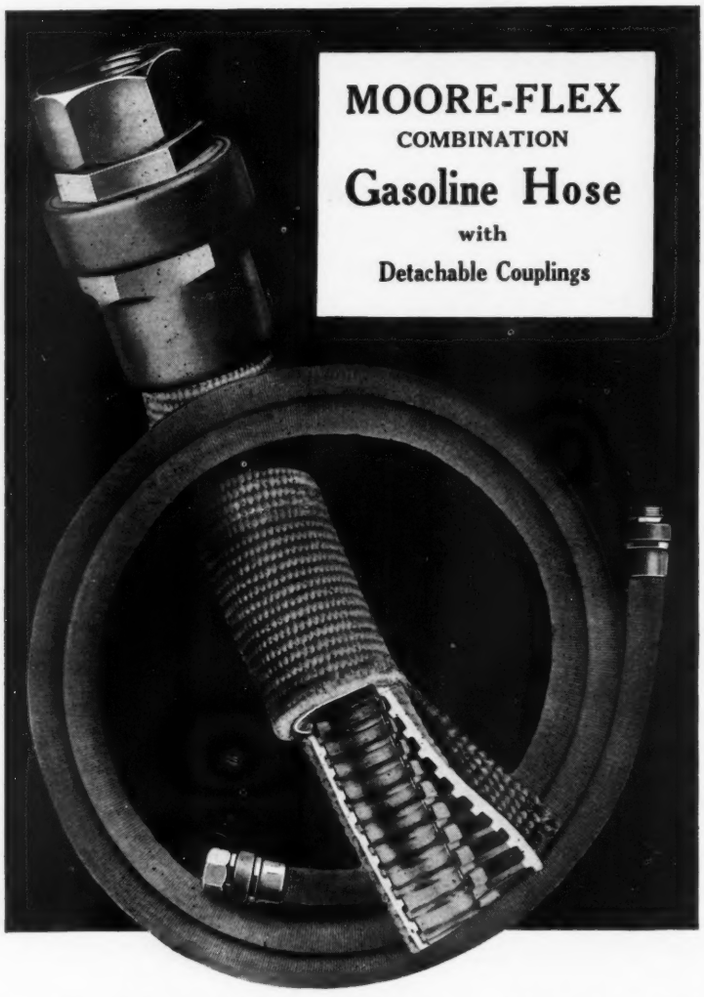
Write for Circulars and Prices

EVERYTHING FOR THE FILLING STATION



MODEL 3

PETROLEUM PRODUCTS EQUIPMENT COMPANY
1524 Park Building, Pittsburgh, Pa.



A SIZE FOR EVERY SERVICE

(Pumps—Tank Wagons—Tank Cars)

Write today for bulletin and prices.

MOORE and KLING INC.

Complete Oil Equipment

233 PURCHASE STREET

BOSTON, MASS.

Help Your Salesmen

to acquire a working technical knowledge of the selection, application and use of lubricants, by ordering for each one a copy of the PRACTICE OF LUBRICATION by T. C. Thomsen.

It discusses the origin, nature and testing of lubricants and every phase of lubrication engineering.

It is $6 a copy. Make your check payable to—

National Petroleum News

825 Caxton Building — Cleveland, Ohio

A. E. F. Petrol Dump Duty Was So Different

PORTLAND, ORE., May 9.—"Whenever I drive up to a gasoline pump and watch the service man turn a crank or push a button, and see five, 10 to 15 gallons measured out automatically into my tank, it makes me think of the way we handled gasoline in the A. E. F.,—because it is so different," remarked an ex-doughboy to a service station manager recently.

"How did you handle it over there?" asked the boy who was filling his tank with gasoline, putting water in the radiator and rendering all the little attentions which the modern station extends.

"We used to get it in big drums out at the transport depots, and usually had to turn one of them up and let the gas gurgle out of the bung hole. Sometimes, if we were lucky, we had some kind of a spiggot for it to run through and maybe we had a funnel to help guide it into the tank, but a lot of times we didn't. It was just a case of slop it out into a can and heave it into the car the best way we could.

"Petrol, the Frenchmen used to call it, and they'd get it sometimes in cans that held a little over two gallons, the way we measured it. Believe me, it used to be great sport trying to get motor fuel around, even in the sections where we had our own depots. Wasn't any such thing as driving up to a pump on almost every corner, and having a slick looking kid wait on you.

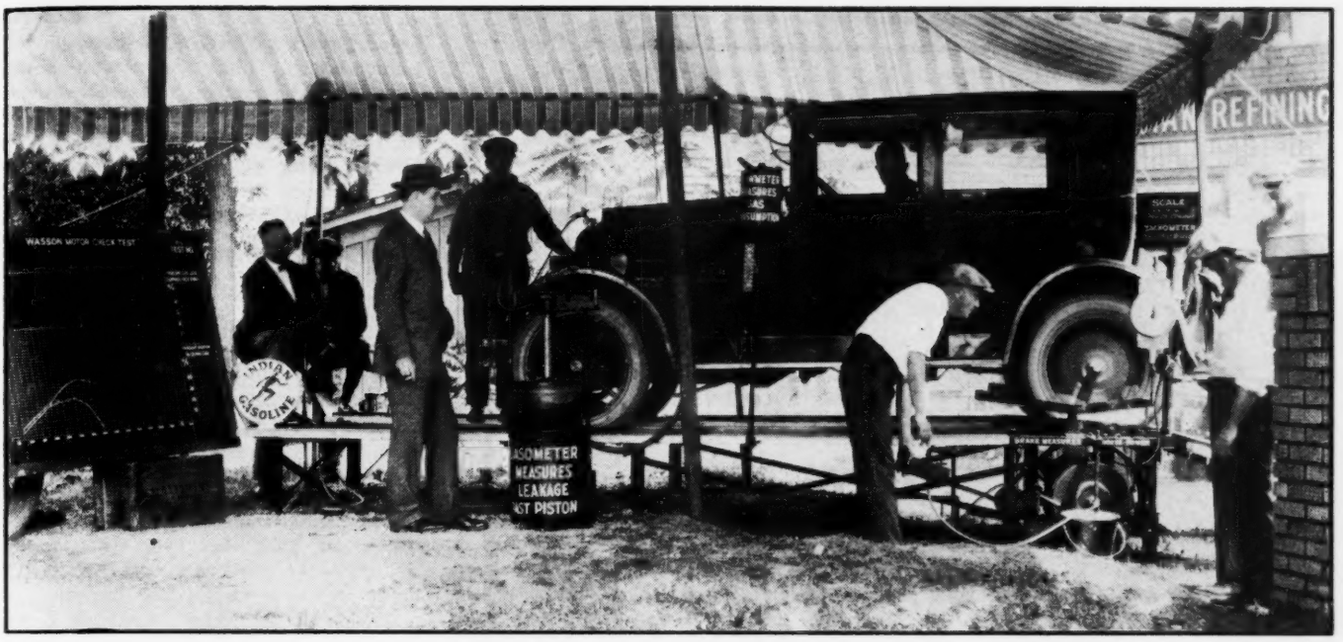
"Still our fellows got pretty handy at finding it and knew how to wait on themselves. I guess that's where a lot of buddies who are running service stations of their own now got their experience.

"When I'm driving around, up and down the coast here, I see quite a bunch of the boys who used to wear 'O. D.' and do 'squads right,' are now getting their 'setting up exercises' on a pump handle and doing the double quick to get air in somebody's tires.

"Yes, I guess the way the gasoline business has grown since the war gave a lot of fellows a chance to get into it for themselves."

CHICAGO, May 9.— George D. Locke, vice president of the Barnsdall Refining Co. in charge of sales, has moved his Chicago office from 910 South Michigan Ave., to 624 South Michigan Ave. The old location is the Standard Oil Bldg., rather far removed from the center of the business district. The new address is the Blum Building where so many oil companies have gravitated in the past year.

TULSA, May 8.—D. E. Byrne, of Pittsburgh, in charge of the tubular goods department of the National Supply Co., has spent several days in the Tulsa office of that company recently.



Wasson motor check testing power of automobile engine at Indian Refining Co. service station in Chicago

Indian Refining Co. Builds Lube Trade With Motor Testing Service

By Ward K. Halbert
N. P. N. STAFF WRITER

CHICAGO, May 9

ONE of the most interesting things used to stimulate the sale of lubricating oils at service stations is the Wasson motor check used by the Indiana Refining Co. of Lawrenceville, Ill., at several of its stations from Detroit to Portland, Ore. The motor check tests the power and efficiency of automobile engines.

The device was not originated as a means to sell lubricants. In fact it was not even developed for the oil trade exclusively. The manufacturers have centered most of their attention on the automotive industry. The possibilities of the machine were discovered early by the Indian Refining Co., and exclusive rights to use it were obtained for a long period.

It is not the purpose of this article to boost the Wasson motor check. The praise of its performances can safely be left to the companies that sell it or use it. It is sufficient for National Petroleum News to assume that the check is useful to the motorist and that the machine will do about all that is claimed for it. It is viewed here purely as a thing that helps to create new business in lubricating oil for a service station, merely as one of possibly several straighforward and novel means of getting business. Indian Refining Co. describes the conditions leading to its adoption as follows:

"With increasing automobile registration the consumption of gasoline and oil is increasing also. But the consumption of motor oils is not growing so rapidly as the consumption of gasoline. In other words, motorists are prone to neglect their lubrication. The use of more lubricating oil would be good for the motorist and at the same time profitable for the oil industry. The filling station is the logical place to sell this oil, and with the increasing number of service stations and the consequent decreasing number of gasoline gallons per pump, the station that gets the most of the lube oil business is the one most certain to survive."

A Single Instance

To show what the Wasson motor check can do in this regard, it has been stated that lube oil business was doubled at one of the Indian's Chicago service stations as a result of its use. The station was a good one in the first place. This station was at Broadway and Ensley Sts. Its actual gallonage is not divulged, but it averaged 40 gallons of gasoline to one gallon of lubricating oil up to the middle of last summer. Then a Wasson motor check was stationed there for one month and tested 275 cars. Gallonage has increased normally since but the ratio has changed. Now that station is selling a gallon of lubricating oil to every 20 gallons of gasoline.

In a town smaller than Chicago, it is reasonable to believe this improvement might have been greater. Ordinarily newspaper advertising has a great deal to do with the development of such a trade stimulant, but in Chicago newspaper space is not ideal for inviting business to a service station. The station must depend upon a limited community for its patronage, and the residents of such a community form only a small part of the paper's total circulation for which the advertiser must pay.

Usually when the Indian Refining Co. installs a Wasson motor check at a station a series of six advertisements announcing and explaining it, is used in the local newspapers, but John Drumm, who is in charge of the Indian's district office here, ruled out the newspaper advertising as unnecessarily expensive and did all the advertising with circulars and by direct mail. Newspaper advertising would be justified, he believes, if the company had three or four machines in town working at once but there is only one in Chicago. It is mounted on a specially built truck trailer and for the present will be moved from point to point as the need justifies.

About the Machine

The check was invented by R. B. Wasson and is manufactured by the T-N-T Engineering Co., Newark, N. J. The motor check is like a greasing rack, with some additional mechanical and scientific equipment. A motorist having his car tested, drives up a low ramp and brings it to a stop on the level in two channel irons. The back wheels each rest squarely on top of a broad pulley or drum. A Prony brake such

FUEL OIL — GAS OIL — KEROSENE — GASOLINE

5 Offices

Conveniently located to your place of business is one of the five Spencer offices.

At its head is a man whose life work has been the marketing of petroleum products.

At its command is a knowledge of oils, sources of supply and markets such as few organizations have acquired.

Guiding its operations always is the inflexible Spencer motto—cheerful, conscientious service is the foundation of success.

Seriously and sincerely, we invite you to try us out. If we DO give such unusual service that our history is an unbroken record of growth, it will be mutually advantageous to know each other better.

"Conscientious Oil Marketing Guided by Years of Experience"

SPENCER PETROLEUM CO.

All Petroleum Products

CHICAGO
1331-1333 Peoples Gas Bldg.
Harrison 9630-1-2-3-4

STABILITY SPENCER SERVICE OILS SATISFACTION

KANSAS CITY
700 Orear-Leslie Bldg.
Harrison 6180-81
Long Distance 65

WICHITA FALLS
204 City Nat'l Bk. Bldg.
Phone 3480

TULSA
1039 Kennedy Bldg.
7857
Long Distance 37

DETROIT
743 Book Bldg.
Cadillac 8864

THE GEOLOGY OF PETROLEUM

is the name of the book written by William H. Emmons, which goes into detail describing the more important fields such as the Appalachian, Lima-Indiana, Illinois, Mid-Continent, Gulf Coast of Texas and Louisiana, Rocky Mountain, Canadian, Mexican and foreign fields.

It contains 610 pages, with 254 maps and illustratrations, and may be purchased for $6 from—

National Petroleum News

824 Caxton Building **Cleveland, Ohio**

as has been used for years to find the horse power of motors, is used on the pulley shaft. Thus the power as delivered by the motor to the rear wheels is checked. The owner of the car sits in it and operates it to suit himself. He knows better than anybody what his needs require in the way of speed, load and climbing power.

There is no slipping between the rubber tires and the steel drums so the distance traveled by the back wheels is the distance the pulley is driven. A tachometer registers the revolutions per minute of the pulley. A rope is snubbed on the break drum and there is an inclination as the automobile runs to twist this lever around the drum. Thus the scale registers the pounds pull required to keep the lever in balance. A gasometer attached to the breather on the crank case measures the slippage of explosive charge past the piston rings in cubic inches per minute, and a flowmeter on the gasoline line measures the fuel consumption. There is also a still to measure the crank case dilution and a gauge to establish cylinder compression. There is a spray valve and a condensing plate to show at what motor speed liquid oil is passed, and other equipment includes a gauge to show back pressure and muffler conditions and apparatus to analyze exhaust gases.

Offers to Motorists

The advertising possibilities of such a machine are great. The motorist can be told his car's horsepower—not when it was new but just at it stands. He can be told the slippage of working charge; the gasoline consumption; crank case dilution and compression of each cylinder. All this information can be had in terms of miles run, gasoline consumed and load carried. This is information any motorist wants or can be made to want. The service is free. It simply places the company's employes in a position to tell the motorist what kind of oil to use and how much.

The old Prony brake formula of physics for determining horsepower has been simplified in this machine so that it is only necessary to multiply the pounds pull by the r.p.m. and divide by 1000. For instance, 40 pounds pull on the drums times 500 revolutions per minute, shows 20 horse power. It is possible not only to find the horse power by r.p.m. but by miles per hour so accurately that the correctness of the speedometer can be checked. Even the motor and transmission assembly is subject to check.

The gasometer that measures leakage past the pistons, is an interesting thing. It is connected into the crank case by means of a tube and all other holes are stopped so that pressure leaking by the piston rings will have only one outlet, into the gasometer. This pressure causes the drum to rise, and the number of inches rise per minute is checked with a scale and a stop-watch, and the number of cubic inches of gas

escaping into the crank case can be reckoned, for the capacity of the drum is known.

The results of the test of each automobile engine are tabulated as made and then the Indian put in its own motor oil of the grade the test indicates should be used—light, medium or heavy. Many times the motor has been tested again with the new oil and increased powder and minimized leakage of gases around the pistons have been shown. This naturally makes the motorist believe he is getting superior lubrication. He has been won over to the company's brand of oil and is generally pleased. When he needs more motor oil he naturally will seek the brand from which he believes he is getting the greatest amount of good.

Machines Rented, Not Sold

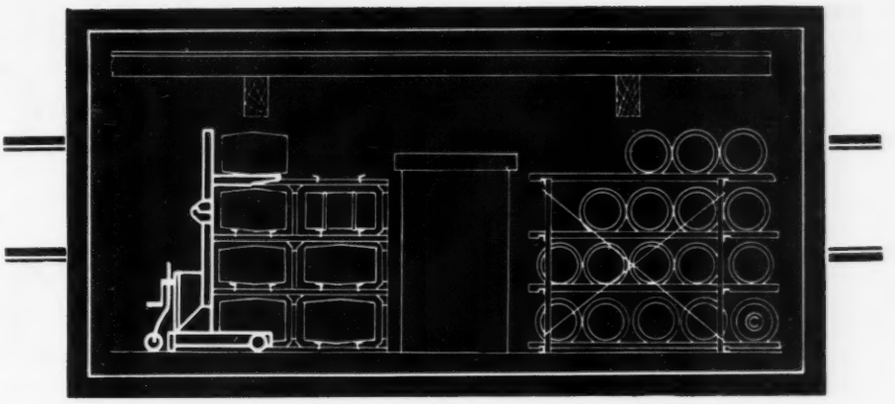
Assuming that the machine is as accurate as it is claimed to be, the possibility of attracting motorists to it is incalculable. It is emphasized that the Indian Refining Co. only has the oil rights on the machine. The Page Motor Co. has the use of it and there are other exclusive rights that the manufacturers are still in a position to put out, it is said. In no case does the manufacturer sell the machines. It probably costs $1,000 to build one, but they are not for sale, being put out on a rental basis. The Indian Refining Co. has taken out 75 machines. One does not occupy more space at a service station than a greasing rack, about 300 square feet, to be liberal.

* * *

The popularity of the check is proved by the record that 25,000 automobiles have been tested by the Indian Refining Co. at Lawrenceville alone. The bold claim in the company's newspaper advertising is that the Wasson machine absolutely diagnoses the ailments of an automobile before it develops real trouble. In addition to that it compares the performance of any car, new or old, on different kinds of motor oil, on different kinds of gasoline, when using motor fuel that has been doped with some motor tonic as against plain gasoline, and in various other ways. It is not surprising that the instrument has been much talked about.

Cannady in New Position

CHICAGO, May 4.—W. H. "Bill" Cannady, formerly vice president of Shaffer Oil & Refining Co., in charge of manufacturing and sales, has become vice president of the Lake Petroleum Co., 208 South La Salle St., headed by George N. Moore. Mr. Cannady's first situation in the oil business was assistant treasurer of the Petroleum Products Co., of Independence, Kan., and in 1916 he was sales manager of the Consumers Oil Co., when it was taken over by the Byllesby interests of Chicago.



Non-Telescoping Economy Tiering Lifter

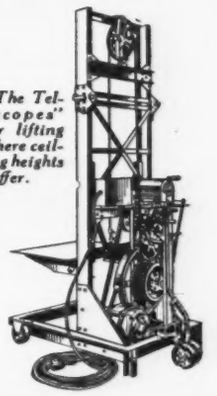
Free *for the asking*

—special blue print layouts of any proposed rack installation detailing the most efficient manner in which to store and move products.

—just give us details as to floor measurements, height, size and weight of containers.

—we will also include our new diagram book on "The Telescopes"

Economy Engineering Company
2687-W-Van Buren St., Chicago
342 Madison Ave., New York City



"The Telescopes" for lifting where ceiling heights differ.

Economy Steel Barrel Racks *and* Lifters *for* Oil Storage

Saving Fingers Through the Prevention of Infection

By Dr. William O'Neil Sherman

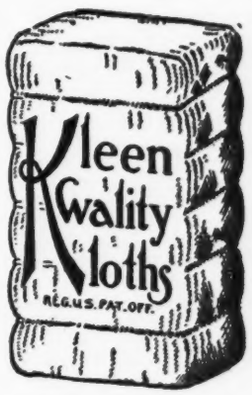
Chief Surgeon, Carnegie Steel Company, Pittsburgh, Pa.

Dr. W. O. Sherman, noted industrial surgeon, tells in National Safety News, the importance of cutting down causes if infection.

At the beginning it may be said, that saving fingers through prevention of infection is not only sayi...

A RECENT Government report relates how $11,663,277 was paid by American Industry in one year for disability cases. A great part of this amount went for fingers and hands and arms that were lost after infections set in minor cuts.

This is far less thon the annual cost for lost time and disrupted working forces,—due to infections. You can protect your workers against this danger if you are careful about wiping rags you put in their hands.



CLEAN, SANITARY, LINTLESS

Kleen Kwality Kloth are not only clean; but sterilized, by a treatment that makes them germ-free as hospital gauze. They are washed in chemicals, boiled in live steam and then baked at more than 225° F. for more than 30 minutes. Your machinists will also appreciate the fact that they are lintless. Despite these advantages, they cost no more than ordinary wipers.

JOBBERS
Let us tell you about representation in your territory

Aron Ferer & Sons—St. Louis

Representatives in the main industrial centers of the U. S. A.

Those who love *buy oil on*

MADE BY THE REFINERS OF SKELLY GASOLINE

Jobbers Originate Sales Ideas For Pushing Lube Oils

By Ward K. Halbert
N. P. N. STAFF WRITER

CHICAGO, May 9

PUSHING the sale of lubricating oils and greases has developed some remarkable merchandising methods in the last few years, since the narrow margins and divided gasoline gallonage have combined to attack service station profits. Manufacturers of equipment have brought out novelties and improvement in handling lube oil recently. The reason is obvious, there is a good margin of profit in the lube oil business and popular interest is being developed in this phase of automobile operation.

A great many of these practical sales helps have been discussed by National Petroleum News in previous issues.

Motorists Learn From Advertising

Most of them have been advertising stunts, however subtle and disguised, but the results have brought broader knowledge and more popular understanding of lubrication. Motor lubrication is a young science, and just recently effort has been made to teach the public theories advocated by engineers.

That the consumer should know something of the merits of his lubricating oil was strongly advocated, and just as strongly opposed, in the early years of the automobile. One of the early exponents of the theory that the public should be taught is Jack Nourse of Kansas City. After selling lubricating oil to the country merchants for 20 years, the Nourse Oil Co., a few years ago felt its business slipping away from it. Analysis of the situation proved the trouble to be the evolution of the service station, which has since taken a good deal of the oil business away from the rural store.

It was in those days that the Nourse organization started holding schools in the offices of small-town jobbers. At these meetings the jobber presided while Mr. Nourse, or some capable representative, conducted classroom exercises supplemented with laboratory work. Many an old and well-known fact about lubrication has been fastened in the mind of a tank truck driver at meetings like this and passed along to the farmers and general store keepers on his route.

"We always centralize on quick demonstration as a vital factor of making a sale," Mr. Nourse says, "Flash, fire and viscosity can be explained, but what farmer will take time to listen to the explanation? A snappy demonstration however will hold his attention and act as a clincher. Many of the employes of our customers have watched us demonstrate the value of graphite as axle lubricant when combined with a grease free from moisture; and the demonstration was a simple 'match test.'"

Seeing is Believing, Says Nourse

The benefit from these schools of instruction was mutual and both parties have not ceased to profit from them. The jobber, whose technical knowledge was limited perhaps, had a chance to learn some things he needed to know about oil to help him sell it. His sales force, station, and tank wagon men, were given the same information at the same time to help them make more sales. The Nourse Oil Co.'s advantage is easy to see. By being liberal with the information gained in 20 years of lubricating oil experience, Mr. Nourse got a chance to keep his resale agencies "sold" permanently on the merits of his compounds.

* * *

THE publicity campaign recommending a complete change of oil for every motor every 500 miles probably has done more to lengthen the lives of automobiles and increase oil men's business than any other movement ever launched. J. L. Murray, Corn Belt Oil Co., Bloomington, Ill., started the campaign. It was not an expensive thing to put across. Mr. Murray did most of his campaigning with public speeches before state jobbers' meetings.

"Drain Every 500 Miles" Effective

Oil men were quick to see the possibilities of the slogan "Change Oil Every 500 Miles." It offered them immediate increase in business when they got the idea in the public's mind, and in the long-run it offered them satisfied customers because such a change of oil is only sensible precaution on a motorist's part. In getting the idea to the public that a change every 500 miles was good business, some remarkable achievements were made. First of all came the postcard system of announcing to customers that the oil in their crank case ought to be changed.

It probably would be impossible to determine who started the postcard announcement, so no positive credit is given, but at this stage of the lube marketing business the system is in general use. One of the most elaborate systems is kept up by Correct Motor Fuels Inc., of Alton, Ill. It is a direct-mail, business-getting plant that has not failed yet to bring a response from the customer to whom it was directed.

The firm is a partnership of Edmond A. Gill and W. J. Carthaus. They have an elaborate oiling station which they call a "Lube-Serv-Atory." Whenever a strange customer drives into that station to have his car drained, somebody gets his name and address, and jots down along with it the make and number of his automobile and his speedometer reading. The next day the customer gets a card from the oil company thanking him for his patronage.

Let the Postman Break the News

A month later, if the customer has not been back for service again, he gets a second card telling him how long it has been since his car was oiled. Then, if he does not show up in five days more, he is sent a third card, just a little more impressive. If six weeks slip by and the customer has not returned for service, he is sent a fourth card warning him of the danger his motor is in.

If eight weeks pass and still the customer does not come back to renew his oil, the postman brings him a personal letter with stamped envelope inclosed for reply. This return addressed envelope always "gets a rise" out of the customer. It has never been known to fail. When a man has received five pieces of mail telling him his speedometer reading at a recent date and advising him that oil should be changed every 500 miles, he is likely to begin to think the fact may be an important one.

* * *

INTRODUCING crankcase service to the rural Ford owner was tried recently with great success by Elmer M. Keitel. There is a known tendency on the part of the farmer to neglect lubrication, attributable probably to the fact he uses his car more as a utility than a source of pleasure. The common practice is to buy oil and gasoline on the same principle—replenishment.

The Columbia Oil Co., Inc., St. Louis, of which Mr. Keitel is secretary, was successful in getting a lot of farmers in Missouri and Illinois to start buying oil by the gallon instead of by the quart. In order to do that the company threw its Colco Fordoil on the bargain counter for one week. This special Ford oil retails regularly for $1.20 and was one of the company's most popular sellers at the time the bargain sale began. The idea was not to push the product; but to use a popular product as an inducement to show Ford owners the advantage of a complete clean crankcase full of fresh oil.

Persuade Farmers To Buy a Gallon

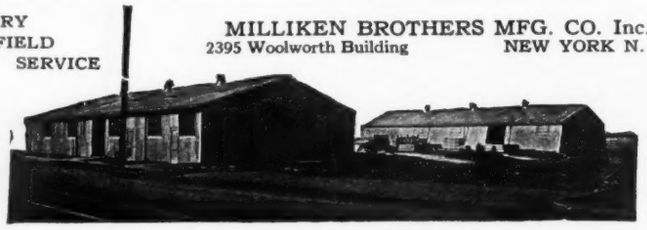
The company had 200 dealers in its territory, including St. Louis. So ar-

READY TO SHIP **Milliken Buildings** READY TO ERECT

These buildings are of standard structural steel, designed in sizes and types especially suitable for service in the petroleum industry. Every building is COMPLETE, ALL-STEEL, PERMANENT and FIREPROOF. Material is stocked and can be shipped on short notice. Erection can be handled in the field with local labor. Send for complete catalog, "CHOICE OF A THOUSAND BUILDINGS," mailed free on request.

FOR EVERY OILFIELD SERVICE

MILLIKEN BROTHERS MFG. CO. Inc.
2395 Woolworth Building NEW YORK N. Y.



Also Manufacturers of ***Transmission Towers*** and ***Radio Towers***

Do Your Customers Come Back For More?

New business is always more expensive than repeat business. Get the new business, of course, but give your customers a line of petroleum products that will make them WANT to come back. It means more money for you and less work.

Where do you cash in—on the one time sale or the repeat order? Why is quality a stronger argument than price? And isn't it possible to get both quality and price?

Some jobbers are making money; others are near-broke. What's the answer? Are the failures handling the right line; are they building confidence in the products they handle?

Ask About Globe Quality and Price

The Globe Oil & Refining Co.

Manufacturers Petroleum Products

Refinery: Blackwell, Oklahoma
Sales Office: Atlas Life Bldg.,
Tulsa, Oklahoma

rangement was made with them to sell them the Fordoil at 60 cents a gallon. Then advertisements were prepared for daily papers and direct mail, listing all these dealers, and announcing to Ford owners that a one-gallon fill of this popular oil would be delivered to their crank-case for 60 cents (dealer's cost) provided they would apply to any of these dealers before a certain date and sign a coupon. The coupon was attached to the advertising.

The company spent about $1,000 for publicity and for a week over the whole territory "Fordoil" was sold for 60 cents, rendering crankcase service. With only two or three exceptions the 200 dealers each did a wonderful business. Of course the company had to remunerate the dealers for their trouble by giving them a credit of 25 cents per gallon handled. Mr. Keitel placed the figure at 25 cents on the theory that a service station attendant is worth $1.50 an hour and can drain and refill six Fords in that time.

The campaign was expensive, the company received for the oil only 35 cents a gallon, but a good many of the Ford owners came back for a second and a third time and completely refilled their crankcases at the regular retail price of $1.20 giving a legitimate profit to the garage owner or service station operator. As a whole, the campaign was successful, but one interesting thing was noticed. At points where the original advertising was not followed up vigorously the Ford owners fell back sooner into their "Gimme a quarta oil" habit.

* * *

Figure Stations' Batting Averages

C. H. ARMOULD, head of the Armould's Oil Co., Hamilton, Ill., has developed a unique system of stimulating lubricating oil sales through his own service stations. Of course his service station attendants are given training in sales talks and sales methods, but in addition to that Mr. Armould has injected a little competition into their work. He has a system of grading his service stations in much the same way that a baseball player's batting average is figured.

Under the rules of this contest, gasoline sold at any station is considered constant and the station is doing well or poorly according to the way the lubricating oil gallonage compares with the gasoline gallonage. The "batting average" of each station is figured weekly; the value of the lubes sold (expressed in cents) is divided into the number of gallons of gasoline sold that week. Batting an average of 500 per cent is considered extremely good while 400 per cent is called poor, based on the company's previous records. It is computed for instance as follows:

Suppose a service station sells 5000 gallons of gasoline and $500 worth of lubricants in one week. Five hundred dollars, expressed in cents is 50,000 and that number divided by 5000 gallons of gasoline gives a grading of 1000

per cent. No station has ever "batted 1000" but on several occasions the good stations have reached 500 per cent.

The rule of the company is, when a customer drives into a station, two attendants wait on his needs. One removes the radiator cap and examines the condition of his water. Another investigates the condition of his oil. If he needs water he gets it without a word. If he needs oil he is told about it in a courteous way, with no sales argument. The theory is that a car is driven into a service station for gasoline and the motorist does not have to be sold that commodity.

* * *

New Station Boss Cracks the Whip

NEWS from within the organizations of major marketing companies is hard to get with official approval, so this incident must be related without names. It is a true story of how a new manager of a branch establishment, far from the home office, made lubricating oil business start off with a "bang" the first month he took the job.

The thing took place in a sizable Texas town where pump boys get "spring fever" coincident with the opening of the motoring season, just as they do everywhere. The company had not been getting much lubricating oil business out of this branch for a long time. Salesmen had been educated on lube sales, prizes had been put up in contests, commissions had been offered, and all manner of things tried. Still lube sales were off.

The new district manager of distribution went into this territory full of pep and lofty motives, as sales managers are wont to begin their work. But he arrived in the city on Saturday night and didn't have time to meet any of his fellow employes. Suddenly a bright idea struck him and Sunday he put it into execution.

About 10 o'clock, A. M. accompanying a newly made acquaintance, he started out and visited every one of the company's service stations without exception. He sat in the car and looked wise while the owner drove it and talked to the pump boys. At each place he asked for three gallons of gasoline and offered a $10 bill in payment. The new manager had supplied his companion with expense money and instructed him to buy absolutely everything he was offered, but to ask for nothing but three gallons of gasoline.

Wtih those orders the motorist visited six stations and bought 18 gallons of gasoline and one $10 coupon book. At no station had be been offered anything but gasoline or its equivalent. The next day the new manager took charge of his territory and called a general meeting of the station men the first evening. And at that meeting he told them the story of his journey in a certain Dodge coupe with a stranger instructed to buy everything offered him—showing cash money to pay with.

"Now," said the new station boss, "this territory has been falling down

Service Station, Clay Center, Kans.
Roofed with Norman's Metal "2 in 1" Spanish Tile

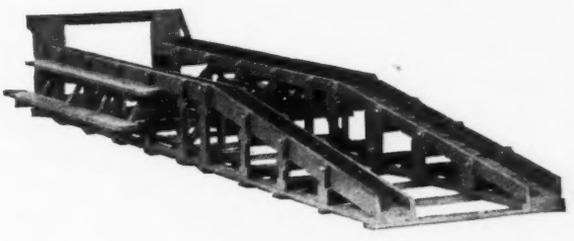
Norman's Metal "2 in 1" Spanish Tile

Add wonderfully to the appearance of service stations at a moderate cost. They possess more advantages than any other type of roofing—will not burn, blow off, crack, or rot—reduce the cost of insurance 10% or more in most states—are made of Copper Steel and with very little attention, will last a lifetime. Suitable for the finest buildings. Can be applied over old wood shingles.

Send us a sketch of your proposed station and let us quote prices on delivery to your city.

The W. F. Norman Sheet Metal Mfg. Co.
Nevada, Mo.

THE - JACKSON
DRAIN RACK
1925 MODEL



BUILT { FOR SERVICE STATIONS OF QUALITY
OF THE BEST NORWAY PINE
TO HOLD UP TO 4 TON WEIGHT
FROM YEARS OF EXPERIENCE

W. S. JACKSON
1276 W. 87TH ST. CLEVELAND, OHIO

The LOWDRAINER for PITS or RACKS

The Lowdrainer is the very heart of a Successful draining service for either pits or racks. As shown in the illustration above, it consists of—

A Steel track running full length of drain pit or rack, enabling attendant to instantly adjust catch bucket, regardless of where car stops.

B Steel carriage mounted on ball bearing wheels and equipped with catch bucket and tool table.

C Lifting jack that raises catch bucket to any desired height, thus preventing oil from blowing about. The 5-gallon galvanized bucket is equipped with screen to prevent oil plugs or wrenches falling in and has drain cock in bottom.

D Tool table mounted on ball bearing wheels, providing adjustment to either side of pit or rack. Table contains complete set of socket wrenches for removing the drain plugs from any crankcase, transmission or differential housing.

It makes no difference how the wind blows —Install a Lowdrainer and save time and clothes.

The entire system can be adapted to any length or width rack or pit.

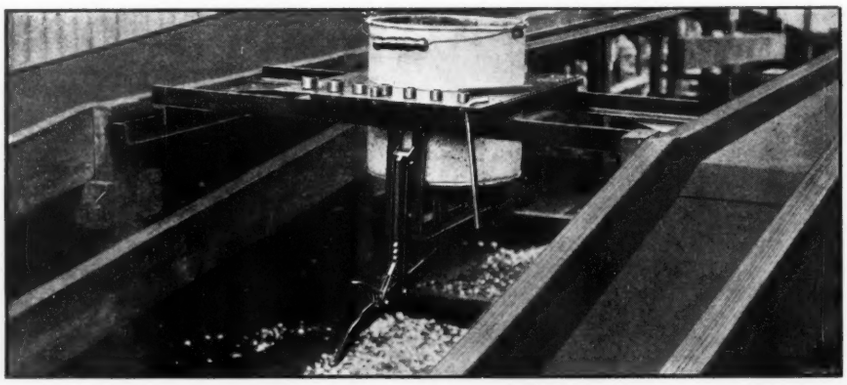
There is nothing to get out of order, and if station is moved or abandoned or new racks or pits installed, the Lowdrainer can be salvaged 100%.

The cost is so low that you can make Lowdrainers standard equipment at all your stations.

The Lowdrainer can also be obtained without steel track, but with adjustable frame that permits carriage to ride on top of pit or rack.

Write now for prices, stating number of Lowdrainers required and length and width of your racks or pits

JOS. H. LOWDEN COMPANY
210 West Avenue ELYRIA, OHIO



Results——Results——Results
Classified Advertising

Let just one of our advertisers tell you what his advertising accomplished. "We have had 27 replies to our advertisement." The writer further says "It was an unusually good class that answered this advertisement and replies were received from as far north as Saskatoon, and west to the Pacific Coast."

Write us today about your advertisement.

National Petroleum News

812 Huron Rd. Cleveland, Ohio

on lube oil sales for a long time and nobody could figure out the reason. We did not want to believe that every service station man was neglecting to try to sell oil, but that seems to be the case. I am going to give you another week's trial, and I am going to check up on you again with another motorist and another kind of a car." That was the new sales manager's opening address. And the next week brought lube oil sales in greater numbers. In 30 days the lubricating oil sales had improved in that territory more than 50 per cent.

* * *

ANOTHER method of reminding motorists that their crank case oil should be changed every 500 miles, has been evolved by a jobber in southern Illinois. The plan is such as to make the motorist carry his reminder with him all the time. It works like this:

Check Oil Figure Against Mileage

When a car is drained at any of the company's stations, and fresh oil is put into the crankcase a reading is made of the speedometer by the man who does the work. The figure is passed back to a clerk in the office who adds 500 to the speedometer reading and writes the total figure down on a "vacuum cup button" provided for the purpose. The button has other lettering on it, which reads "Renew your oil at ..... miles."

The blank is filled in with a pencil. The button is small and not at all unsightly. The vacuum cup behind it makes it possible to stick is securely in the corner of the wind shield or even on the glass over the speedometer. By this arrangement the motorist is constantly checking the speedometer reading against the figure on the button. Thus he never forgets that he should renew his oil at 500 miles.

The button sustained by the vacuum cup is about the size of a small campaign button, or even less. It will not come off with vibration of the car and looks better than the gummed paper stickers used by some companies. It has another advantage over the stickers too, in that the figures can be erased easily and new ones put on whenever the customer returns to the station to have his oil changed.

Clock Is Novel Feature at Station

BROOKLYN, N. Y., May 11.—A novel addition to the gasoline service station of the H. C. Bohack Co., Inc., which operates 331 food markets and 90 trucks in this city, is a large clock, placed at the center front of the canopy roof. Clocks, providing they keep the right time, are an attraction, and inasmuch as the corner at which the station is located is a big transfer corner and many trolley cars terminate there, officials of the company believe the clock is an added attraction to their station.

Photo 2—Good illumination of large service station grounds at Cities Service Station in Cleveland. These views illustrate how modern lighting enables a gasoline service station to present an attractive, ready-for-business atmosphere by night as well as by day. Photo below shows night view of this same station.

Correct Lighting is Both Convenience and Good Advertising

By R. J. Crandall

Engineering Department, National Lamp Works, Cleveland

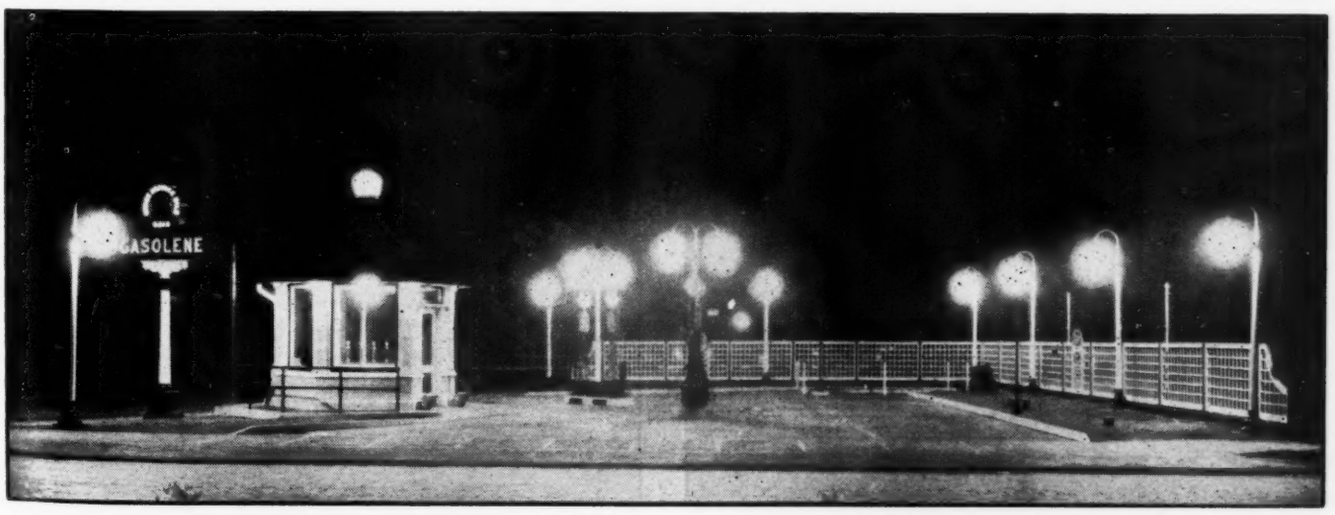
DO YOU light your gasoline filling station at night? A foolish question, you say, but—and here's where the hitch comes—is it well lighted? Do you really make light work for you—bring new customers to your service station and put more dollars in your cash register? Good lighting will make your station more attractive and bring more customers and increased sales just as surely as good store and show window lighting has increased the sales of city merchants, and good factory lighting has increased the production in factories.

In recent years gasoline filling and service stations have pushed forth from the obscurity of the garage until now they bid fair to become a definite addition to American architecture. They are an essential convenience to modern methods of transportation and most of them are much more pleasing to the eye than the dingy garage from which they have come. As a matter of fact, with the increasing competition of today in the sale of "gas," the progressive service-station owner has done much to make his place of business attractive, to flash attention, and to give rapid and courteous service.

Indeed, this factor of attractiveness has allied itself so closely with the sales results, that it is only natural to expect that the owner should wish to capitalize on it equally as much during the hours of darkness as during the daytime. Consequently the value of the well lighted gas station is being realized more and more extensively.

However, increased attractiveness is not the only benefit to be derived from better lighting, for with the presence of plenty of light the motorist or service station attendant may quickly determine the requirements of a car for gas, oil and air, thereby enabling prompt and efficient service to become the rule rather than the exception.

The service station could be lighted with a few lamps placed here and there,



This is the same station lighted by twelve 500-watt clear Mazda C lamps in basket lanterns equipped with light alabaster rippled glass globes and dome refractors. The mounting height of the luminaires is twelve feet. Interior of station is lighted by one 500-watt clear Mazda C lamp in totally enclosing glassware. Twenty-four 60-watt clear Mazda B lamps located in trough at cornice "floodlight" station house. Beacon employs one 200-watt clear Mazda C lamp. Behind the word "gasolene" in the sign are sixteen 50-watt lamps fitted with ruby color-hoods.

so that the service station itself could be seen by all who passed; but this would not necessarily mean that light was being used most advantageously about the station. In fact, at night, it would even be possible to give an automobile a new supply of gas, oil and air, by the light from a small lamp

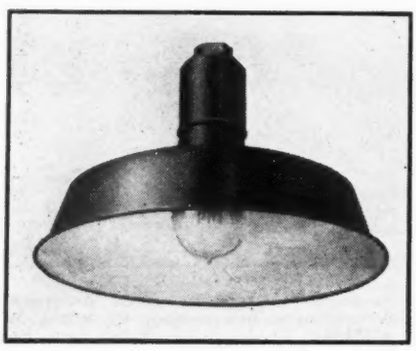


Photo 3—The R. L. M. standard dome porcelain enameled reflector, an inexpensive unit, yet highly efficient as a lighting unit.

on the end of a drop cord, or even from a small pocket flashlight. But how many service station owners would tolerate the inconvenience of such lighting, or how many customers would retain their confidence in the service under these conditions?

Two Aims of Lighting

Good lighting does two things for the service station. It makes it possible to transact business at night the same as in the daytime, and it flashes attention to the presence of the station. The utility of good lighting, though perhaps well understood, means briefly that there should be sufficient light around the building and yard for attending to the needs of the car—replenishing gas, air, water, and changing oil—for inspection and minor adjustments, that gauges may be easily read or that the customer may count his change with assurance.

The best lighting for the service station is well worth while when considered from the utilitarian standpoint alone, but there is another aspect, a by-product of good lighting—which the service station owner can little afford to overlook—namely that of advertising. It can well be said that the service station is not getting its full value from its lighting if it neglects the advertising value of light. This applies not alone to the use of electric signs but refers also to the use of light in liberal quantity to increase the general attractiveness of the station. Good lighting inspires confidence, creates good will, and leaves a good impression. Thus good lighting serves a double role and all service station lighting should be planned with this in mind.

The office portion of the station is by no means difficult to illuminate, for it is usually so small that one lighting unit is sufficient. This unit, preferably an enclosing unit of diffusing glassware, should be mounted about a foot from the ceiling and should be equipped with a 200-watt lamp. If the office is quite large, two or even four units may be required, in which case they should be spaced ten feet apart or thereabouts, according to the general dimensions of the room. The proper installation of a unit such as is shown in Photo 1 will banish gloom and glare from the interior of the station and will help to present a prosperous and attractive appearance from the outside.

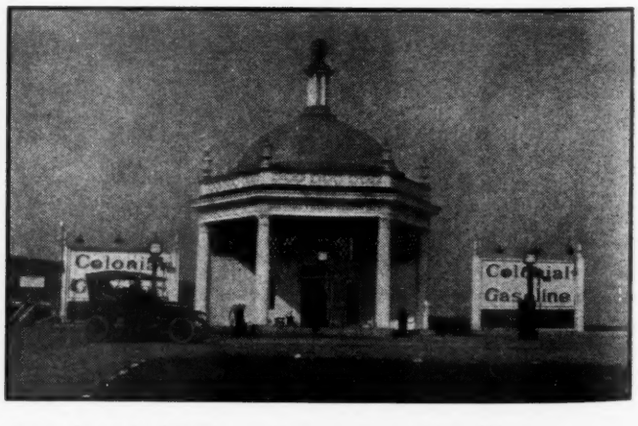
For lighting the immediate exterior of the building and for decorative purposes as well, small enclosing units of diffusing glass are frequently used around the cornice of the stations, as shown on the building in Photo 2. This type of lighting can be made very effective if the units are spaced six or eight feet apart and are equipped with 50 or 75 watt lamps. Where a canopy has been built over the driveway, as is frequently the case, a very effective means of lighting for this part of the station may be secured by installing standard RLM porcelain enameled dome reflectors, flush with the ceiling of the canopy.

Where the canopy has been built to accommodate only one car, two reflectors should be spaced eight or ten feet apart along the center line of the driveway—or better yet, four reflectors located close to the corners of the canopy. These reflectors should be equipped with 100 watt bowl enameled lamps. The RLM dome reflector is shown in Photo 3. The same reflector is now recommended for the majority of industrial installations because of its high efficiency and its other desirable qualities. If the canopy is of sufficient width to accommodate two cars, four RLM dome reflectors placed at the four corners are recommended. The gasoline pumps are generally provided with some means of lighting directly on top of their standard, but additional illumination from ornamental poles has its merits.

The Yard and Surroundings

The lighting of the service station yard may be accomplished from a purely utilitarian standpoint, by using RLM dome reflectors mounted on brackets and placed symmetrically about the yard, so as to provide illumination for the entrance ways, exits, and for the oil racks, air hose and the like. It should be remembered that the RLM dome reflector was designed primarily for industrial plants where a maximum in the efficiency of the lighting unit is desired. Thus, while this reflector utilizes most of the light from the lamp and is at the same time reasonably inexpensive, still it is not especially ornamental. In most cases the architecture of the station and the desire for better appearance demand more decorative treatment, and for this reason, ornamental posts and lanterns are recommended. The accompanying pictures show a very effective use of these ornamental standards. The rip-

Photo 1—This type of lighting unit, when provided with a 200-watt lamp, will banish gloom and glare from the interior of the station



Making the station stand out at night as accomplished by this Colonial Co. station at Somerville, Mass. Lantern type Novalux fixtures are one type of lighting equipment used.

pled alabaster glass street lighting unit similar to that shown in Photo 2, when equipped with a 300 watt lamp, lends itself very readily to outdoor lighting of this character. The 300-watt lamp may seem rather large to some for yard lighting, just as the 100-watt lamp may seem large for the RLM reflector, but if lighting about the station is to be used most advantageously, good lighting must be used.

The merit in the ornamental standards is not only one of good appearance but they are also very effective from the standpoint of the percentage of the light from the lamp they redirect down onto the yard where it is needed. The spacing of the ornamental poles will depend upon the character of the station and its dimensions. In general, however, a lighting unit should be placed in each corner of the yard when the latter is small, and when it is fairly large, the units should be located 30 to 40 feet apart about the edges of the yard.

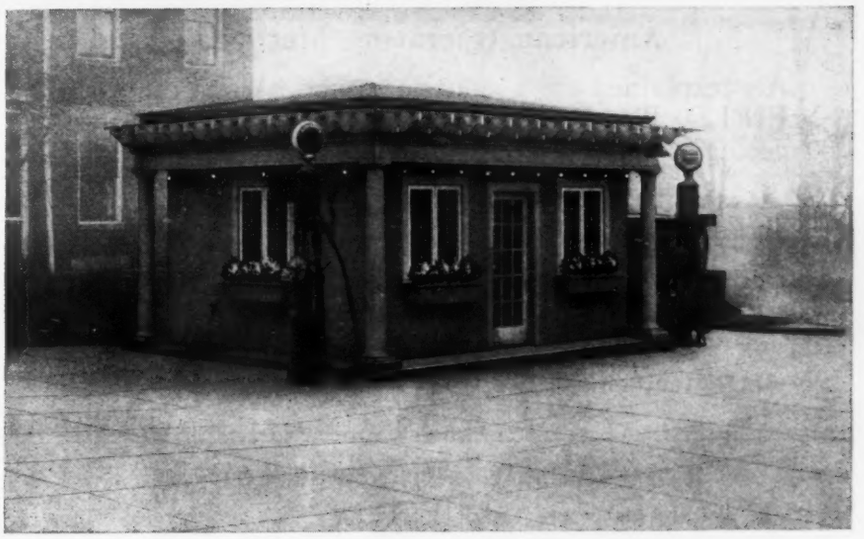
Electric Signs

The importance of the electric sign is so great that the service station owner can little afford to overlook its value. A large proportion of the service station electric signs in use today are of the enclosed lamp type, consisting of a metal box into the sides of which are fitted opal glass letters. These letters are illuminated from the inside of the box and in order that they may not look spotty from the outside it is necessary to place lamps six inches apart or thereabouts, each way over the entire area of the sign. The small 25 or 50-watt sign lamp is needed for this purpose. These signs, when properly constructed, may be seen and read effectively at distances up to 500 feet but their general form is visible for distances greater than this.

The sign is an essential identification maker, especially if the service station is a short distance removed from a main thoroughfare. Furthermore, it greatly increases the attracting power of a station on a main street. Good signs, when accompanied by a well lighted "gas" station can do much to make the owner of such a station, prosperous and happy.

DICKSON, TENN.—Page Bros. Oil Co. has purchased the Chero Cola Bottling Works here and will run that business in connection with its oil and gas buisness, "but we won't mix it together to drink," L. L. Page, manager says.

ATHENS, TEX.—John Robbins, president of Robbins Bros., this city, has installed new electric pumps and added a steam auto laundry and greasing rack to its service stations. Mr. Robbins says that "they are expecting a real oil boom in our county within the next six months" and that "business is good."

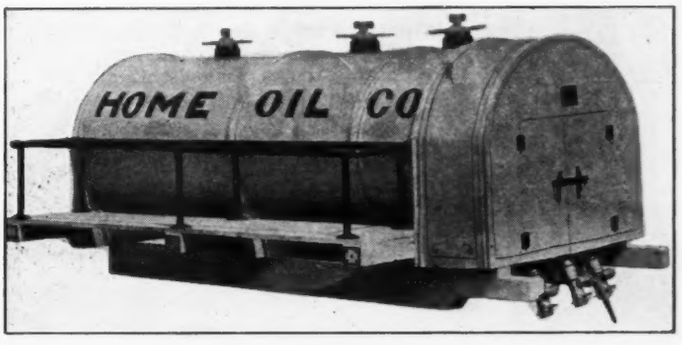


Gasoline and Oil Filling Stations
and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.
524-544 Eggleston Ave. Cincinnati, Ohio

Better Equipment for Less Money



300 Gal. FORD TRUCK TANK

Three Compartments

Complete in every way
Painted Regular $125.00

PROGRESS MFG. CO.
Arthur, Illinois

American Operating Methods

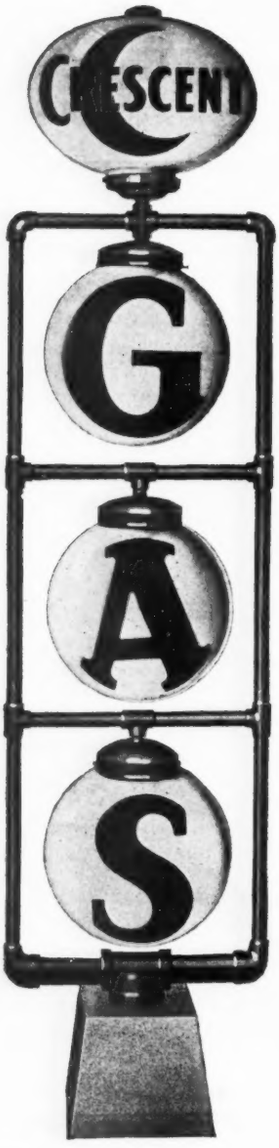
Are explained in a concise, practical way in OIL FIELD PRACTICE, by Dorsey Hager, petroleum geologist and engineer.

It is written for the business man, the oil field driller and operator, the geologist and the investor.

You may obtain this book containing 310 pages and 98 illustrations by mailing your check for $3 to—

National Petroleum News
820 Caxton Building Cleveland, Ohio

Dawes Globes Attract Buyers



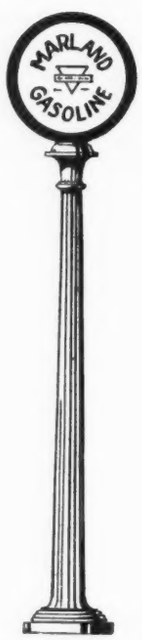
Scientific tests have proven that Dawe's Electric Signs and Globes, correct lighting with a sales suggestion, increased the business done by filling stations.

If you desire to increase your business, use Dawe's Electric Signs and Globes. They attract buyers. And if you desire lettering that won't come off and is always clear and bright, permit Dawes, specialists in sign and lighting globes since 1846, and catering to the gasoline trade, to serve you.

Manufacturers of sign and lighting globes for gasoline pumps, station lighting posts, ball lighting globes, station and yard signs.

Tear off the coupon below and use it. It will mean increased profits for you.

The Dawes Electric Sign and Mfg. Co.
Pittsburgh, Pa.



for your use

TO THE DAWES ELECTRIC SIGN & MFG. CO
PITTSBURGH, PA.
Without any obligation on my part, please send me further information.

NAME _____

FIRM _____

STREET _____

CITY _____ STATE _____

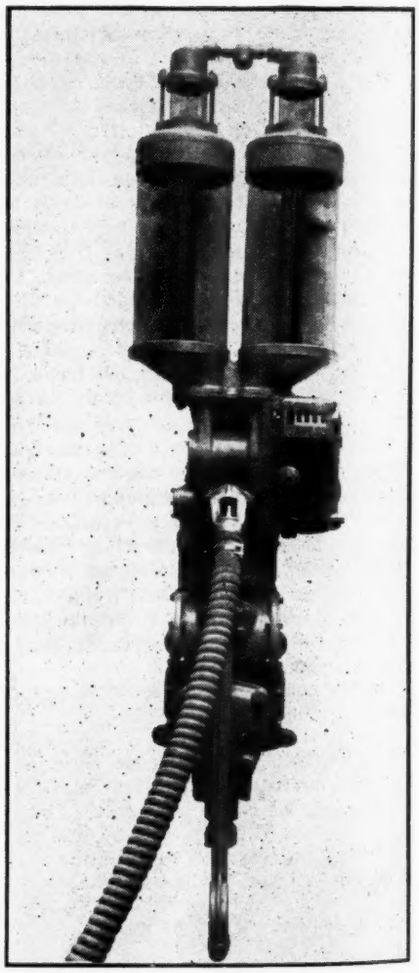
New French Gasoline Pump Can Be Operated From A Distance

CLEVELAND, May 9.—A French company Societe Hardoll, is making arrangements to put on the market in this country a type of gasoline pump new to the United States but well established in Europe, according to Jean Borotra, the sales manager of the company.

Mr. Borotra, who besides being an engineer and the sales manager of the pump company, is a celebrated tennis star, is now in this country and negotiations are on by which Davis Welding Manufacturing Co. of Cincinnati, may take on the manufacture of the pumps for the American trade.

Mr. Borotra has this to say about the new pump:

"When American pumps came into France a few years ago, we knew that perhaps more than a million of these pumps were in use in America, giving pretty good service but requiring fre-



THE control and measuring mechanism of the Hardoll pump. The control device is on the right. The indicator on the dial is turned to the number of gallons wanted and the pump started. One after the other of the glass containers at the top is filled and emptied into the gasoline tank. When the required number of gallons have been delivered, the pump stops and locks.

MOTORISTS patronize your station because they either prefer the brand of gas you sell or they like the service you render,—or both.

No certain make of pump will directly increase your trade, but the 10 gallon Wet-Hose Type Raymond Pump WILL increase your sales per customer.

By actual test this pump increases sales 40% to 100%. Statistics show that the average gasoline sale with a dry hose is 4½ to 5 gallons and the purchaser drives away 2½ to 3 gallons short of a tank full. With the Wet-Hose you get that extra 2½ to 3 gallons because the operator works at the end of the hose. He can see how much is needed to fill the tank and avoids spillage. Neither does he spend his time draining the hose or running back-and-forth from pump to car. Saves time for motorist and operator and increases gallonage.

The Raymond rotary pump delivers gas speedily without need for back-stroke, while its freedom from complicated mechanism speeds up operation. and practically eliminates upkeep expense. Its accuracy protects both motorist and yourself.

Made in four types,—hand, electric, air, and combination air and hand, with or without motor,—and priced to render service with least cost per gallon. (Raymond pumps are also made in 5 gallon capacity.) Attractive quantity discounts make it THE pump for leasing.

Remember, it's gas they buy, not pumps. If you want to render better service, quicker and more economically, write for information on Raymond pumps.

The RAYMOND VISIBLE
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THE RAYMOND GARAGE & EQUIPMENT CO., Adrian, Mich.

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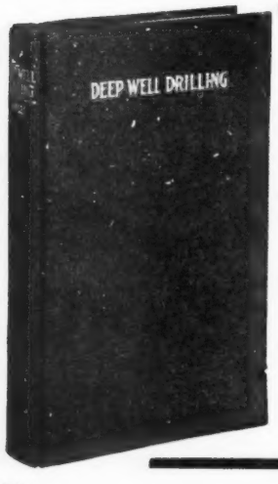

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Deep Well Drilling by W. H. Jeffery tells you how to drill in the language of the men who do the work. It takes you out to the lease, shows you how to build the derrick, gives drawings, tells how to install equipment and what to do when trouble shows up. Gives full details regarding state laws, and plugging of wells.

Has 518 pages and 240 illustrations that show you how the other fellow does it.

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NATIONAL PETROLEUM NEWS
801 Caxton Bldg. Cleveland, Ohio

quent adjustments, since the measure was affected by whatever went wrong in the pump or in the foot valve.

"This disadvantage of the lift pump did not prevent its use in America, for when the customer happened to verify the quantity he got, and found it deficient, he simply attributed the short measure to the pump, and although not always well pleased, he was usually satisfied by advising the dealer to have the pump adjusted, which was an annoying but practically easy thing to do, owing to the wonderful organization of the oil companies in the States.

"But in France the customer very often attributed the inaccurate delivery of the pump to the dealer, thinking that he ought to have taken greater care of his pump, or have used a better pump if the one he had proved to be out of order too often. The discussion which happened in those conditions, was, of course, a very bad gallonage getter, and moreover the adjustment of the pump meant in any case a good deal of trouble to the oil companies.

"Besides, the French people like to see the measuring of the goods they buy, knowing that it is a guarantee that they will get the right quantity.

"Consequently, after having examined and studied in detail the pumps of American make, some French manufacturers thought that these, perhaps, did not quite suit the French market, and they began designing pumps on quite a different principle.

"Instead of having the gasoline measured in the pump itself, which makes the measure dependent upon any loss in the efficiency of the pump, leaks in the foot-valve, or entrance of air, they designed an apparatus in which the measuring members were entirely separated from the pump, the latter being only the lifting agent.

"The pump sends the liquid into an accurately calibrated receptacle, sealed after calibration, and when the receptacle is filled, it is put in connection with the hose and empties by gravity into the customer's tank.

"Such an apparatus will deliver the right quantity even if the pump or the foot-valve happens to be out of order; a greater number of strokes will be necessary to fill the receptacle, but it can be filled.

"The complete filling and emptying of the receptacle being controlled by means of top and bottom sight glasses, the customer is absolutely sure to receive the exact measure in all cases.

"This first realization of such a type of apparatus was soon greatly improved as to the speed of delivery, by using two receptacles instead of one. These receptacles are alternately put in connection, by means of a four-way cock, with the feeding pipe and the delivery hose. One receptacle is emptying while the other one is filling, and the air and vapors driven out by the filling of one receptacle are sent into the other one, thus forcing its emptying, and considerable increasing the rate of delivery.

"There is, of course, a registering

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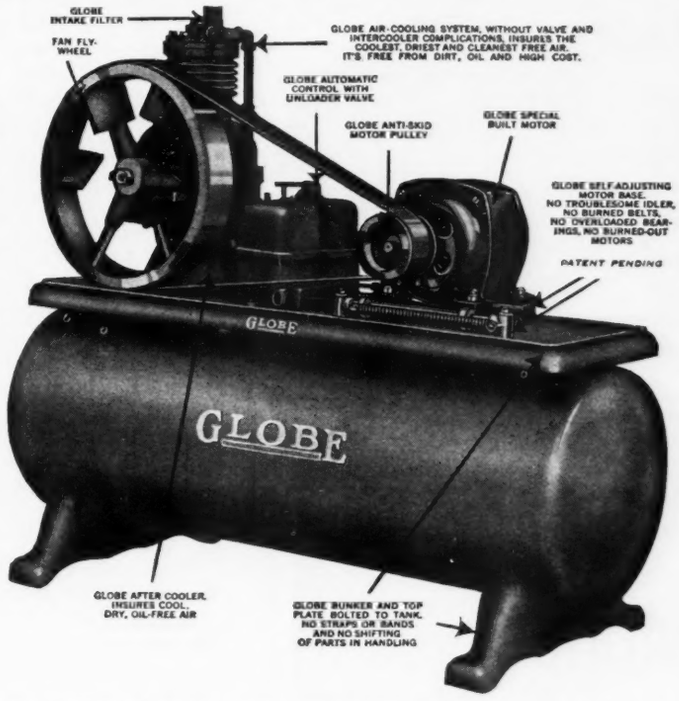
Are Always Found in the Most Up-To-Date Service Stations

THEY insure patrons a dependable free air supply at all times and Care-Free Service for the operator.

Notice the many exclusive features not found in other makes. These features are necessary for satisfactory operation.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GLOBE AFTER COOLER. INSURES COOL, DRY, OIL-FREE AIR
GLOBE BUNKER AND TOP PLATE BOLTED TO TANK. NO STRAPS OR BANDS AND NO SHIFTING OF PARTS IN HANDLING

GLOBE MANUFACTURING COMPANY, Battle Creek, Mich.

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WITH a close understanding of the jobbers' problems, we are in an unusual position to render the type of service which not only supplies dependable products but which lends cooperative assistance in market matters that puts and keeps the jobber in constant contact with the industry as his representative.

Such a connection with us will prove its value to you.

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Here's a tip to the oil jobber who's open for something to attract and hold trade—

Try our "W" Bright Motor Oils (Filtered)—bright Western oils of paraffin base—notable for brightness and clarity—and perform perfectly under the most exacting requirements of motor lubrication.

A test will convince you that these are oils you can sell with confidence and profit.

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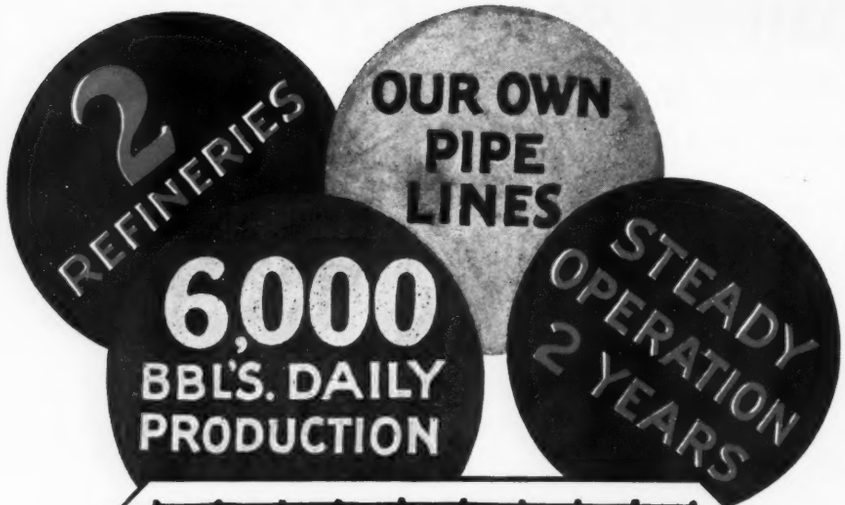

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CUSHING PRODUCTS

You will be glad to have Cushing Products represent you to the Motoring Public. Cushing straight run gasoline is so much better it's distinctly noticeable.

Our Plants are big enough to take care of a goodly volume of business and small enough so that your order is considered mighty important.

You get exactly what you buy and we've got an iron clad habit of shipping it to you so you can depend on it, when you place your orders with us.

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Gasoline And Other Motor Fuels

by Ellis and Meigs, is a book of recent publication which gives a complete survey of the field and a description of practically every process of making gasoline and most other motor fuels of promise or prominence.

The price of the book is $10. Just send us your check and we will mail a copy of it to you.

National Petroleum News, 807 Caxton Bldg., Cleveland, Ohio

meter which keeps an accurate record of the quantities delivered.

"The automatic pump, especially, has proved extremely popular, for it saves the trouble of working the valve every time one receptacle is full, and moreover such a pump is absolutely foolproof, as the outflow mechanism and the recording meter will not work if full measure is not to be served out.

"With this automatic pump, the only thing to do is to place the hand of a dial (graduated from 1 to 10 gallons) on the number of gallons required, and to pump continuously. The pump becomes locked as soon as the required number has been delivered.

"Due to its automatic action, it was also immediately possible to realize an electrically driven apparatus working in an entirely automatic manner, by simply placing the hand on the required number of gallons, and throwing on the switch: the motor pump being thus set in motion it keeps on filling one receptacle after the other, and then automatically stops at the end of the delivery.

"Such an improvement is of considerable interest because it allows the dealer to let the pump work alone and to turn his attention to other things in the meantime, such as making change, dealing out oil, water, air, or working another pump, and the motorist is able to leave as soon as the pump has finished delivering, instead of having to wait for the end of all the side operations.

"Although time is not considered to have as yet the immense value in France that it has in America, this feature of the electric pump has proved to be the greatest "gallonage getter" on the market, as motorists know that they save considerable time when filling up with such a pump.

"And when used in filling stations, electric pumps save an extremely important amount of labor, as they allow the work of two or three service men to be done, and done quicker, by a single man.

"For use in filling stations and important garages the latest improvement of the electrical pump has been an additional outfit allowing the automatic long distance control of the deliveries:

"From his control board, the chief attendant of the station or garage can now operate and control every delivery even at long distances.

"Due to the automatic action, we may, even now, imagine pumps standing alone on the roads, and isolated filling stations where the motorist will be able to fill his tank by simply introducing into a slot special counters which he periodically buys from the oil companies.

"And there is no doubt that such a pump is the pump of the future when one considers the extremely high and constantly increasing cost of labor in the entire world, and particularly in America."

Making the Service Station Operator A Little More Than That

By E. Th. Geddes
N. P. N. STAFF WRITER

CHIEF impression received from my experience in a service station is that operators must get very sore arms from pumping gas (especially on Saturday afternoons) and second that they ought to take a "bawth" after draining every crankcase.

Other than that I found there was much to learn if the full volume of business was to be gotten out of every car.

My station manager was just a young fellow, but he knew what the "Spirit of Service" was and thoroughly inspired the rest of us with his enthusiasm. His slogan was, "Sell 'em oil, boys, sell 'em oil." And we did.

At intervals when we were not so rushed the manager would gauge the various oil tanks and tell us how fast its supply was diminishing and then set a goal for the next hour. Making sort of a childish game of it, we would remind every gasoline customer that we'd better look at his oil. And there would go another quart, almost every time.

On flivvers especially, and other cars where the oil gauge cannot be seen from the driver's seat I planned a system whereby the oil could be tested without adding to the length of time the car stood in the station drive.

When the motorist asked for one quart of oil I would let the bottle (a mason jar with patent top) set in the oil intake while, I would get underneath and open the two test petcocks. If he could take another quart I told him so and if he actually did not need another I told him that also. In either case he went away a little more satisfied because of his increased knowledge about the actual volume of his oil. Many times we would sell additional quarts on the strength of our tests—tests which he probably would not have asked us to make.

Power of Suggestion

"Have you plenty of oil?" is easy to say "Yes" to.

"Need any oil?" is easy to say "No" to.

But, "Are you sure you have enough oil?" makes the motorist go through an extra mental process in answering and suggests that he has not enough. This usually makes him test the oil, at least, or have us put in a quart for safety first sake. Few are the cars, like men, which cannot hold another drop.

While filling one lady's gas tank, I asked her about oil and she replied that was the "other" thing which George had told her to have done. So there was another oil job. But when I requested her to drive up on those "narrow little tracks" she balked. To make a long story short I finally drove up for her. She liked that.

While I was draining her car and putting in oil she asked all sorts of questions about how and why and whether all oil wasn't the same and so on. As best I could, I told her that this was the best Pennsylvania oil, noted for its paraffin base and viscosity. I told her to remember that this oil got thicker in winter and, therefore, she should use the next lightest grade to this in cold weather. She liked that, too. She'll remember it, I think.

As The Pump Man Sees It

FIND some way of impressing your own personality on the motorists who visit your station is the way a National Petroleum News man sizes it up after taking a job actually working at a Cleveland station for a while.

Mr. Geddes tried out one or two little stunts on his own hook and found that they worked. He describes them in this article. Just what an individual operator worked out to achieve this end would depend on his own capabilities, he points out, but the main thing is to find some way for the operator to lift himself out of the rut of just running a gasoline pump, and dealing out oil on order.

Tell Them Something

She knew more when she left than when she came in.

And there's the point! Tell the motorist something about the oil or gasoline needs of his car that he does not know. Every one is seeking information. If you talk to a motorist about something which interests him you are injecting a little personality into your sale and Mr. Motorist will find it much easier to remember you and your station.

To greet him with a smile and tip your cap when he leaves will help him remember you, too.

Of course, much has been said about asking the motorist if you should "Fill it up" instead of asking "How many?"

Some motorists calmly sit at the wheel and say "five" from force of habit while others get out to inspect the tank and your technique of pump and hose handling.

To tell those motorists who stay at their wheel that five has only half filled the tank, often gets the response of "Alright, put in a couple more." And there you are. The larger the unit sale the more the profit grows.

Let It Drain

However, handle the other motorist in another way. The fellow who gets out to watch you sometimes only gets out to stretch but more often keeps a close eye on the hose and meter. He wants to watch you drain the gas out of the hose and will love you all the more if you let the hose drain even a little longer than is necessary. Just before taking the nozzle away lift it up (sort of unconsciously) so he can cast a glance to see how slow it drips and how really little gas of his order is escaping the tank. That lets him feel that he is getting all he paid for. This type of fellow will feel more satisfied, too, with this treatment.

Our manager made us go "two men on a car" when we were not busy, his idea being to get the car out as quickly as possible—with as little delay to the motorist as possible. In the evening after filling a car and when the motorist is still where he can notice, I had the idea of just cleaning off his tail and stop-light lens with one or two strokes of a rag in my pocket. Personally, (and I can't prove this) it would seem that this little service would be appreciated. It can be made to appear almost like a caress to his car and that tickles most motorists.

Make an Impression

The whole point is to make a definite impression—inject your personality into service station work; that the patron may go away feeling satisfied and easily remember that this particular operator at this particular station is a bit different than the average. I discovered the need for developing a personality for the station from adventures as a driver with my own car.

The operator who goes out of his way to render a service will be remembered. One rainy night a well dressed man drove up to have the differential greased. A mean job and a wet one for that night. To make it harder the nut was locked on tight. When I told him that we couldn't do this job now but that he might stop in during the day when we could take care of him better he felt real peeved and drove away mad, although I tried to counteract his feeling.

Some drivers think we are waterproof.

NATIONAL
Gas Merchants
How often you have wanted real Speed with Visible Pumps.
You can have both only with NATIONAL Pumps.
The patented *VISIGAGE* on the fastest pumps made, makes this combination possible.
Both pumps have the gallon bell, dials on both sides, the exclusive price computer dials, good looks, simplicity—and NATIONAL durability.
The attractive price of the *SIMPLEX* makes it the greatest 5-gallon pump value.
The continuous 2-cylinder delivery and 100% accurate guaranteed meter make the *DUPLEX* the utmost in gasoline dispensers at any price.
Both are Underwriters' Approved.
NATIONAL RECORDING PUMP COMPANY
DAYTON, OHIO
The SIMPLEX
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Serving Women at Service Stations, From a Woman's Viewpoint

Contributed

HOW to please women with filling station service seems to me to be a subject of great importance to people in the oil business. An article in one of your numbers dealt with the subject in an interesting manner and, if I get warmed up to the topic, I am likely to deliver a longer treatise than the other lady did, for that particular phase of oil marketing has been uppermost in my mind for about two and a half years.

The woman who wrote that article discussed oil station service as it applies to women, viewing it from the standpoint of a customer, and based most of her observations on a series of incidents at stations. My research has been from the standpoint of the oil marketer, making an effort to please an ever increasing number of female customers. In a small town like the one where we live, women motorists are not 25 to 50 per cent of the trade, but run 50 to 75 per cent, according to the time of year.

To explain my interest in this matter; my husband married a stenographer shortly after he got out of the army, and some time later he had the managership of a little Independent oil company handed to him. Everything about the business was run down and he began to work day and night to save it. I had to go to work with him or be without a husband, and was glad enough to do it because my heart still harbored a secret longing for the business life I had given up with spinsterhood.

Catching Women's Trade

How to capture the female patronage was one of my husband's problems which he called me into conference upon. I had some other duties including reading the trade press, but this was the only one in which I was granted latitude for creative genius. Dedicated to this task, I set about studying my own sex. I came out of the seminary knowing all about women, able to defend the basic correctness of everything they did, as a class. But catering to their favor for patronage was my last thought then. Two years of it, however, established the fact that I know only one thing about women, and here it is, "they differ," and in that respect they are very much like men.

The importance of catering to women in a small town is obvious. Women drivers are more numerous for several reasons, but mainly because the traffic is not so congested. I do not mean to infer that women are less capable of driving in traffic or are less disposed to do so than men, but men are not willing for their wives to drive in heavy traffic and therefore, few of them do it in proportion to the number who can.

In the Small Town

In a big town, traction systems of various sorts make it safe, convenient, and cheap for women to go from place to place when they please. In small towns and in the country, women must drive a car or stay at home. The two items of garage rent and parking privilege mount up to considerable expense in big towns, while keeping a car in a small place is a matter of oil, gasoline, and repairs. So it will be seen that a poorer class of people own automobiles in country places.

> **Women Demand Courtesy**
>
> "Women demand a different kind of service at station from men. Men demand speed. Hurry is a habit among business men that they do not drop when off duty. Women are not so pushed for time, as a rule. But they do demand more courtesy than men. It is not an expensive service to give. Service station attendants can be trained to use it and it pays big dividends in towns where women do a good share of the driving. This point of courtesy is the main thing to be considered in serving women."

The lady motorist in a small town is the housewife and mother, and in many cases she is also the housekeeper and cook of the family. She has plenty to do and probably does not drive any more miles in a year than the city woman, but she makes more trips. The car is a household utility. It is the woman's duty to keep the car replenished with gasoline, oil, and water. She takes her husband to the office between eating breakfast and washing the dishes, and she takes the children to school between washing the dishes and making the beds.

Much of the country woman's driving is done in a dust cap and apron. Whenever she motors in a party dress her husband is at the wheel. That is after supper when the service stations are closed. She had the "gas" tank filled when she was down town for the groceries about ten o'clock a.m.

Women are not alone in their love for pretty things, and their abhorrence of unsightly spots. We worked out an interesting illustration last year. We were supplying the trucks and tractors of a road contractor building a 20-mile link of highway near our town. My husband got the business by competitive bid and the margin was narrow. We delivered the kerosene in tank wagon and they filled their own tractors, and we delivered the motor oil in barrels, but the gasoline business was handled by coupon books.

In order to handle the business the easiest way we bought a tank at the edge of town, the property of a hot-dog merchant who failed in business. The tank was buried by the curb near the road work, so all we had to do was install the pump and put a man on the job, hoping enough other business might develop there to make it pay. In the meantime we beautified our down-town station for the lady trade.

Flowers Attract

The pump at the end of the street did very well for a while. It handled nearly all the gallonage to highway trucks working out east, it picked up a few customers from the side streets and the attendant made friends for the company by telling people the road was closed a mile east and how to detour, but that lasted no longer than it took to get the flowers to bloom at the other station. It was not an expensive job, but it was the best service station in town. There were white drives of crushed rock, green sodded parking, and bright yellow jonquils in the flower beds. Everything above ground had been given a coat of paint and the father and son who ran the place had been persuaded (with some difficulty) to wear white unionalls.

Just as soon as the down-town station got all dressed up, the pump at the end of the street began to lose business, and finally failed to justify a pump boy. Every highway truck driver contrived to come by the pretty station for service, although he had to drive a block out of his way. We did not lose any lady trade. They were profuse in their compliments of the beautified station, but the percentage of woman customers did not increase. Probably the truck drivers would have been slow to acknowledge their reason for shifting their patronage, but it was obvious. Personally, I think a man's taste is much the same as a woman's, but men are ashamed to proclaim their preferences.

With the completion of the state highway, we began this year to enjoy tourist patronage. This was something new, because ours is an inland town in a plain agricultural section, not especially scenic.

Sell More Gas

Your Sales will increase by leaps and bounds when motorists know you have a Dixie Air Tower

No Dial To Turn

Exact tire pressure shown without removing chuck.

Dixie Service brings customers because,—

1st — The gauge is absolutely accurate; easily read night or day.

2nd — A 7" brilliantly lighted, inviting, Free Air sign on three sides.

3rd — Dixie stands are 14 feet high, providing an exceptionally large hose radius — the chuck is small and convenient for wire and disc wheels— large, never sag, oil tempered tower spring keeps hose off the ground — our pressure reducing valve adds longer life to hose.

4th—air flows direct from compressor to tire, providing quick tire inflation.

Balloon tires require accurate pressure to insure long life. Dixie stands are equipped with a large accurate U. S. Gauge, calibrated in one pound units, for balloon tires.

Merely release valve button to ascertain correct tire pressure.

Priced Surprisingly Low.

Write for interesting folder

Dixie Manufacturing Co.

571 West Lake St., CHICAGO, ILL.

Then I began to contrive means of capturing the patronage of women from other parts of the world. We built a new station on the street where the telephone poles carried the highway number, and embodied in its plans all the modern ideas of good stations, including a ladies' rest room of adequate proportions.

Fix Up Rest Room

Rather than spend money for a perfectly appointed ensemble we brought some of the less used items of furniture from our home down to the station to equip the rest room. Since our marriage we had some porch furniture but had never possessed a porch, so we had two wicker chairs, a wicker lounge, and a wicker table to match. We robbed our home also of a good tan rug and had nothing to buy but a full length mirror. The rest room was decorated appropriately and made a charming room.

By the time the pumps were installed I had hung two pretty pictures, embroidered linen covers for the table and the head of the lounge. I even did the company's initials on the towels for the rest room, and imagined I'd be getting letters from thankful road-weary women all summer calling me blessed for the delightful place I had provided for their recuperation—but no such luck.

Two weeks after the station opened I went down to see how the rest room was getting along. One of the pictures was gone, the table cover had three holes burned in it with cigarettes, and the table top was marked under the holes. The rug was badly stained and one of the chairs was broken. The room was fairly clean (that was up to the men at the station) and they assured me that all the damage did not happen at once. The man in charge declared he had provided a towel every time he was asked for one as long as the supply lasted, but had recovered only half of them.

Plan Is Failure

This particular station built to serve tourists trade was a success, for it developed new gallonage for the company and it made money, but my plan was a failure. It was located out from the dust and rattle of the business section of town, at my own suggestion. Of course, such stations get their share of business originating in the neighborhood. But my idea was to have it out by the little park in a quiet place where there was shade, and where we could provide some out-of-door seats with small expense.

This elegant ladies' rest room and soothing scenery outside was to make it easy for the touring women to wait while the crank case oil was changed or the car given a thorough greasing. We even went so far as to subscribe for the "Ladies Home Journal" for that station, but that was partly a joke of my husband's. It was another joke when we installed three metal drain racks, two of which have since been moved downtown.

That first and only downtown station of ours came in for the big patronage from tourists, although the ladies' rest room does not boast of a single chair because it is not big enough, and the lot is too small for the drain racks. The secret seems to be the neighborhood. It is on a car line, the town's two car lines cross nearby. I am persuaded that the beauty parlor across the street is the thing that makes it so attractive to the tourists, or maybe it is the picture show around the corner.

> **Rest Room Suffers**
>
> "Two weeks after the station was opened, one of the pictures was gone, the table cover had three holes burned in it with cigarettes, and the table top was marked under the holes. The rug was badly stained and one of the chairs was broken. The man in charge declared he had provided a towel every time he was asked for one as long as the supply lasted, but he had recovered only half of them."

The Pump Girl Passes

One of the most radical mistakes I ever made in catering to women was in employing a woman attendant at a station. Women were used for "pump boys" successfully in war time, but there must have been a great deal in the sentiment attached to it. The trade looked upon these girls as heroines, and the girls themselves felt the thrill of patriotic usefulness too. I know, because I came in contact with a lot of home girls who sacrificed much and contributed little to the railroad I worked for during the war. They seemed to feel each day that they were being stultified in the name of democracy.

It may be different in some places, but so far as our town is concerned, the public will not tolerate a woman at a service station now. The lady at the pump might "make a hit" at a station in the industrial section where the patronage is entirely men, but women do not like to serve women; nor do women like especially to be served by women when a man will do just as well. I can recall quitting a job once because I was given a woman boss, and on the other hand I know I prefer to eat where the waiters are men, even though they may be poor waiters.

Knowing those things I can't see why I ever hired a girl to work at the pump, except that she was related to the man who had charge of the station and asked for the job. It looked to be the cleverest sort of a move; the girl was strong, bright, and businesslike. But she was removed at the request of several of our customers in the neighborhood. It was a popular station with young men from all over town—I

think that is why the women in the neighborhood entered an objection.

It is not my opinion that women require as much service as men, at least they require a different kind of service that is easier to give. Men demand speed. Hurry is a habit among business men, a habit that is not to be criticized, for it comes of a knowledge of the value of time. But they do not lay down these habits when they are off duty. Men know what they want or believe they do, so they rush in and call for it and rush out, whether they are going anywhere or not, it makes no difference whether they are buying a hat, a cigar or a quart of "medium."

Women are not so pushed for time, as a rule. They are accustomed to wait for the water to boil, or the jelly to jell, or even for the milk to turn. In this modern age we have the shopping habit, and wait our turn without being bored or dashing away. Women do demand more courtesy than men, who are prone to think courtesy is superfluous. But courtesy is inexpensive. Service station attendants can be trained to use it, and it pays big dividends in towns where the women do the driving.

Speed, on the other hand, costs money. It requires additional help which must be paid. And additional help sits on a box a good part of the day at any station, unless somebody works harder than they do finding jobs for them. And idle help is costly. If all of our customers were men, I am afraid we would not make ends meet every year. It has been hard enough for the past two years, even with the assistance of the ladies.

This point of courtesy, in my opinion, is the main thing to be considered in serving women. They like their stations convenient, close to home, and easy to get into, and out of. But men like the same things. Pretty stations get more business from women, and also from men, in about even proportions. But if the female trade is the consideration, be careful in picking the station attendant. He should be a man in the first place. And as between an old man who smiles and speaks softly and takes his time, and a young man who rushes, take the former.

EL PASO. TEX.—The Calumet Oil Co., which operates 10 service stations here, is introducing benzolized gasoline to the trade, which is red, and sells at a 3 cent premium. In addition to the benzol blend, the Calumet continues to market white U. S. motor gasoline under the trade name Calumet Crystal gasoline, according to R. N. Mullin, manager.

FARMVILLE, VA.—The Standard Oil Co. of New Jersey is installing equipment for mixing and handling ethyl gasoline at its plant here.

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Stations
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Salesmen's Autos,
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Unloading materials on shore of Colombia at Puerto Escondido for the tests of Jenks interests

Drilling Rig and Equipment Moved to Location on Backs of Men

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, May 7

THE "tight places" of exploratory work develop greater degrees of ingenuity in the oil industry, perhaps, than elsewhere. This is necessarily so, because of the incessant search for prospective producing areas, and their remote location from regular lanes of travel.

In the tropics, difficulties of exploration are multiplied. The dense foliage often proves almost impenetrable, rainfall is excessive in comparison with that in domestic territories and countless other obstacles are encountered.

The "broad, open spaces" of the southwest and the remote location of prospective areas in non-producing states at home become as incidents in comparison with the obstacles to development that are found abroad. Pioneering in distant lands takes account, however, of a play for stakes not necessarily approached in the smaller but satisfatctory operations in home fields.

Difficulties of Transportation

When the Jenks interests of London decided to go ahead with exploratory work on their properties in Colombia, South America, they engaged the services of W. F. Arnold of Houston, formerly deputy supervisor in the Gulf Coastal region of the Railroad Commission of Texas. Mr. Arnold, who is now back in Houston for a temporary stay, took charge of operations inland from Puerto Escondido and elsewhere in Colombia.

It was necessary to move the materials used for drilling the Puerto Escondido test from the Dubara property of the Jenks interests before operations could be taken up. From Dubara to the loading point, these materials were moved overland a distance of about 17 miles. Then the materials were shipped by boat to Puerto Escondido (known to the natives as Puerto Viejo), about 160 miles south of Cartagena.

The outfit, which was moved as a complete unit, was loaded at the shore near Dubara about the first of August, last. All went well until Puerto Escondido was reached. At that pont, transportation became a factor of outstanding importance.

Because of the dense growth of vegetation and the effects upon the territory of the rainy season it was impractical to consider the moving of material to location by the usual transportation means such as trucks and tractors.

As a result of this condition and the necessity of starting operations at a specified time, every piece of material for use on the Puerto Escondido test well was carried a distance of seven kilometers (a kilometer is five-eighths of a mile) from the unloading point to location. The tropical growth, of course, was cut down and passage permitted by the free use of machetes.

A total of 295 men, mostly natives, were employed in transferring this material by "man-power" to the site of the test well. Drilling was actually under way September 18, last, 48 days after the moving of material was begun.

It is explained by Mr. Arnold that the rainy season is the best time for the landing of materials along the Colombian shore, for then the ocean is calm. In the dry season, the winds are such that it is often impossible to make landings of material. He reports a total of 606 inches of rainfall in the rainy season of last year in the Colombian Coast territory under discussion.

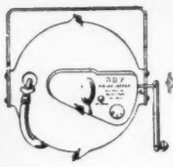
Oil Shows at Dubara

The Jenks interests are still drilling on their Dubara property, where oil shows were found in broken formation at about 700 feet. Tests No. 1 and No. 2 on this property are standing idle, not having been finally completed or abandoned. No. 3 is reported to have had a gas flow of 5 million cubic feet daily at 1780 feet and No. 4 was down 2504 feet when Mr. Arnold left Colombia a few weeks ago.

A property of the Jenks interests that is known as Sinu has been turned over to J. W. Kelley for test operations on a partnership basis, the details of which were not announced. Mr. Kelley engaged J. S. Abercrombie of Houston to do the drilling for him and a test is to be under way by May 1, this year.

PEETZ, COLO.—R. E. Hunker, proprietor of the Peetz Oil & Supply Station here, will install additional storage for petroleum products, on account of increased business, and will possibly add another delivery truck in the near future, he says. Mr. Hunker operates independently and handles Texaco products exclusively.

SALEM, O.—E. C. Linderman has purchased the J. A. Sanco service station at East Palestine, O., and will market Freedom gasoline and oils, according to L. Goodballet, agent here for the Freedom Oil Works.



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Holds 100 pounds of transmission and differential grease.

Unique and patented construction assures smooth, solid delivery with an entire absence of air pockets even in cold weather.

Registers with absolute accuracy the quantity of grease delivered.

Delivers more grease with less effort than any other apparatus in the field.

The removable head allows quick refilling with least effort.

Specifications

TANK—Steel welded, 12 in. Diameter; 27 in. high; Capacity 100 lbs.
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Hose—5 ft. flexible combination.
WEIGHT—60 lbs.
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"Sealed by Bureau of Standards in Massachusetts"

Roy Manufacturing Co., Inc.

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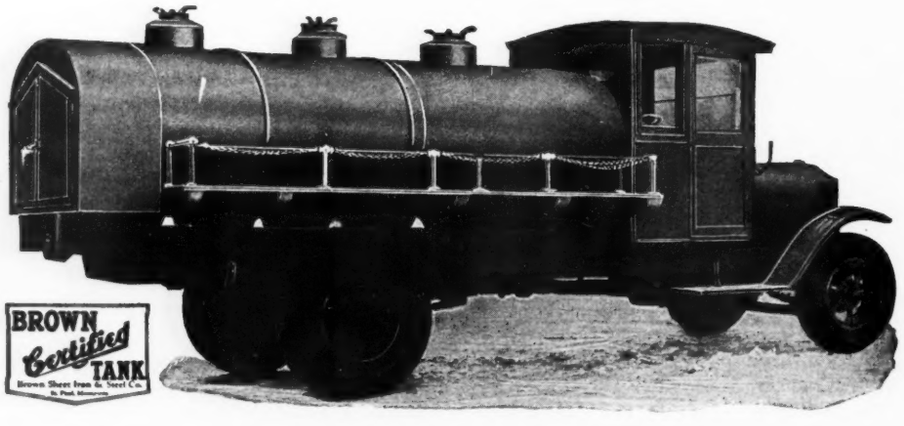
Whatever Your Tank Requirements We Can Supply Them



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Our exceptional manufacturing facilities enable us to give the best kind of service.

Truck Tank designed for fuel oil.

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Licensed Manufacturers of Van Tilburg Rectifying Process

ON THE LAZY BENCH

Amusement

"For beating your wife, I will fine you $1.10," said the judge.

"I don't object to the $1," said the prisoner, "but what is the 10 cents for?"

"That," said the judge, "is the federal tax on amusements."

—Magnolia Oil News

◈ ◈ ◈

Visitor: "Where's your mamma, Johnnie?"

Johnnie: "She went over to Mrs. Jaw's two hours ago to stay five minutes."

—Stanolind Record

◈ ◈ ◈

"Stockings?" said the salesman. "Yes, madame. What number do you wear?"

"Why, two, of course," replied the sweet young thing.

—Flash Points

Foreman (to Irish laborer): "Look at that Italian carrying two scaffold poles at a time, and you're taking only one."

Pat: "Shure, he must be too lazy to go twoice."

—Union Oil Bulletin

◈ ◈ ◈

Cop: "Hey, where are you going? Don't you know this is a one-way street?"

Abe: "Vell, I'm only going von way, ain't I?"

—Magnolia Oil News

◈ ◈ ◈

Sweet Young Thing (driving through suburb)—"Would you like to see where I was vaccinated?"

He (with enthusiasm)—"Sure."

S. Y. T. (pointing toward house which they just passed)—"Well, right in there."

—Stanolind Record

Gassing Slightly

By Rollin Stone

The Federal Oil Questionnaire Board, Washington, D. C.

Dear Mr. Questionnaire:

While I have not been asked any questions by you recently, I was much interested in a lately published set of them which I read in the Cow, Calf and Bull Review. I studied the entire bunch seriously, spending, in fact several minutes at the task and I must confess that most of them were a little too technical. They had to do mostly with alcohol—a subject upon which I have, alas, too much sentiment to discuss.

There is one question, away down at the bottom of the list, that I can answer. I almost passed it by, for, as I say, it was far down. My old habit of skipping to the end of a story to see how it turns out, however, got me in on this one. It reads, in part, as follows:

"In generating power, what overall thermal efficiencies are obtained, etc."

I have looked up "thermal" and find it has something to do with heat. Therefore, I believe I can give you some information on "overall thermal efficiencies."

Firstly, the overall is not designed to supply heat, but rather to avoid it. Of course, the question of friction should be considered, for heat undoubtedly will be supplied if any friction occurs. It is best to buy them rather loose around the waist.

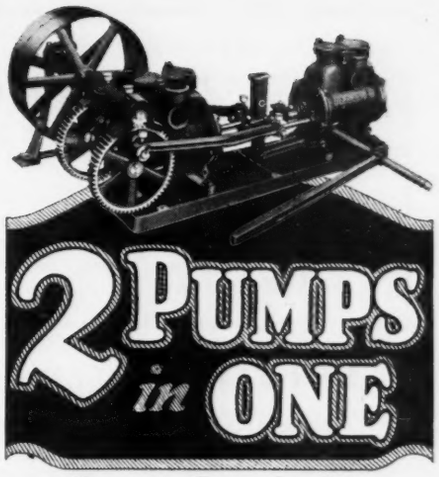
The more I think of it, the more I am convinced that I am just the man to supply you with all the information you need on overalls. I have spent much of my life encased in them and have made quite a study of their efficiencies, both thermally and chromatically. The subject might first be approached from the latter standpoint.

I have found that color plays some part in the proper functioning of overalls. In the summer time, when employed in the wheat country, I recommend the dun or tan colored overalls as affording best protection. The employer can never make certain, at any reasonable distance, whether the wearer is actually shocking wheat or resting prior to shocking wheat. Blue overalls are best for working in the orchard, as one can achieve almost complete invisibility.

Coming again to the question of thermal efficiency, this can be increased when cold weather comes simply by wearing one's Sunday pants under the overalls.

Write again, dear Board, any time you require further data on overalls.

Yours,
Rollin Stone



-One Gasoline
-One Kerosene

Both are mounted on a one-piece cast iron base with power jack attached. Easy to install. Will operate without vibration or movement on any kind of a foundation.

Either pump may be connected to the cross-head by two machine bolts and operated separately or together.

Cast iron base under pumps forms oil pan which is tapped for drain pipe, insuring a safer and cleaner pump house.

Plunger, slow speed, and packed with special cup leathers—a special safety feature.

DEMPSTER

Oil Pumps

Simple in construction, easily installed and easily kept in continuous service by the average operator. Designed for the continuous pumping of kerosene, distillate and gasoline. Made for hand power, engine power, or electric power; belt or gear drive.

Write for Special Oil Pump and Oil Supplies Catalogs

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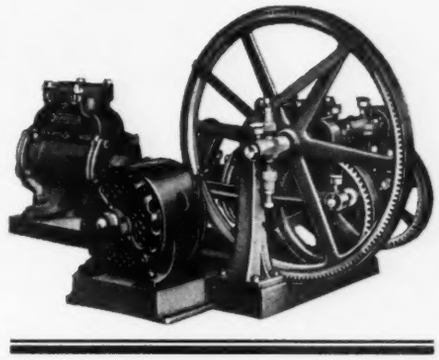
Distributors: Sharpsville Boiler Works Co., Sharpsville, Pa.

Jobbers: Dempster Company of Texas, Amarillo, Texas

Builders of satisfactory pumps and pumping equipment for over 40 years



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Write for prices, testimonials and illustrated catalog.

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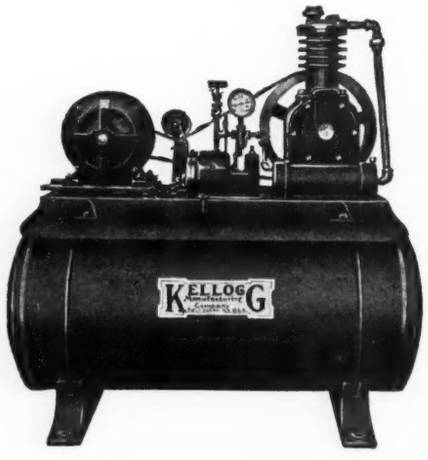
How Many Filling Stations Have You That Are Short of Air?

FILLING STATIONS using Kellogg EM 261 have found that their "free air" problems are solved, for the Kellogg is always ready to perform regardless of the demands made upon it.

The Kellogg patented combination pump and splash lubricating system, plus the dual disc valves, enables the compressor to deliver 25% more air and at the same time consumes 10% less power.

It Pays to Buy a Kellogg



Kellogg Manufacturing Company
Rochester, N. Y.

Pay Conceded Fire Loss At Once in New Plan

CHICAGO, May 7.—A new form of Standard fire insurance policy has been proposed by Hall, Whitaker & Jackson, a Chicago firm of insurance adjusters. The provisions of it and the specific ways in which it differs from the two or three standard policies now in use, have not been published but wherever the proposed policy is discussed it has received favorable comment.

One of the especially attractive features of the proposed policy is that it obligates the insurance company to pay promptly whatever part of a claim it concedes to be just, whenever there is any dispute about the adjustment. Sometimes now, companies can withold the entire claim made by the insured until a disputed point has been threshed out in court, even though the company concedes part of the claim to be correct.

For example, if a business man has a fire, he may estimate his loss at $10,000 and the insurance company contend that it is only $8,000. The man who had the loss wants that $2,000 difference but he can not afford to hold out for the difference if it is going to postpone the collection of all his insurance. He is rather disposed to take the $8,000 and not argue further. What is worse, lawyers' fees might exceed $2,000.

With the form of policy, which has been submitted to the underwriters for their consideration, the company would pay the $8,000 it concedes to be right and let court action on the merits of the additional $2,000 claim come later.

WASHINGTON, D. C.—Lord Baltimore Filling Station No. 6, subsidiary of the American Oil Co., Baltimore, Md., and which is located at Connecticut Ave. and Ordway St., Washington, has been pronounced one of the finest and most complete stations in the East, according to Lee Sonneborn, with the American Oil Co. at Washington. All modern devices for speeding up service to the motorist have been installed, Mr. Sonneborn says.

WASHINGTON, D. C. May 7.—The American Oil Co., with headquarters at Baltimore, Md., and affiliated with the Mexican Petroleum interests, recently doubled its fleet of trucks at its Washington, D. C., plant to take care of increasing business at this point, according to Lee Sonneborn.

BARABOO, WIS.—The service station, which is being erected here by O. F. Philbrick, proprietor of the Philbrick garage, will be one of the largest in the city. It will include ladies' rest room, and other conveniences in addition to office space. Lattice work at the rear of the building will be added to improve the property.

Six American Companies Share in Turkish Petroleum Co.

Reprinted from May issue of the Lamp House Organof Standard Oil Co. (New Jersey)

WIDE-SPREAD interest has been manifested over the publication of news that there was recently concluded at the ancient City of Bagdad an agreement between the government of Iraq and the Turkish Petroleum Co., Ltd., which provides for extensive exploration and drilling in a large area in Mesopotamia. This interest is explained by the fact that after negotiations running through several years an American group of six petroleum companies has been allowed to take a 25 per cent share in this very important undertaking.

Originally a Turkish province of Asia Minor, since the Armistice Iraq has been constituted an independent kingdom under a British mandate. The actual present area of this mandatory state is 143,250 square miles made up as follows: Province of Bagdad, 54,540 square miles, Province of Mosul, 35,130 square miles, Province of Busrah, 53,580 square miles, with a population in 1920 of 2,849,282 of whom 2,650,000 are Mohammedans. For something more than twenty years the reported petroleum resources of this country have in varying degree been in the public eye on account of the efforts made by various nations to obtain development rights.

With the signature at Bagdad of an oil convention to run for seventy-five years from March 14, 1925, by the government of Iraq and the Turkish Petroleum Co., Ltd., the first effective step toward the possible development of oil production in Mesopotamia has been taken.

The Turkish Petrolum Co., Ltd., is composed of the Anglo-Persian Oil Co. the Royal Dutch-Shell Co., the French group and the American group in equal parts, but with a 10 per cent oil royalty payable by the Turkish Petroleum Co. Ltd., to the Anglo-Persian group in return for the halving of its original share of 50 per cent in the Turkish Petroleum Co., Ltd., in order to admit of the American group's entry on equal terms. The American group is constituted as follows:

Mexican Petroleum Co.
Gulf Refining Co.
Atlantic Refining Co.
Sinclair Consolidated Oil Corp.
Standard Oil Co. of New York.
Standard Oil Co. of New Jersey.

The actual lease covers the Kingdom of Iraq (except the Province of Busrah) and any territorial acquisitions resulting from future frontier adjustments. Out of the 90,000 square miles comprising the concession area, the Turkish Petroleum Co., Ltd., will be permitted to select 192 square miles in twenty-four rectangular blocks of eight square miles each.

Development will require very considerable outlay of time and money by those groups constituting the Turkish Petroleum Co., Ltd., and it has to be borne in mind that "the proof of the pudding is in the eating" and the Mesopotamian oil fields have yet to justify the claims made for their potentialities. It is unproven territory.

Most important from an international point of view is the subleasing plan incorporated in the concession whereby the whole of the area embraced by this convention (with the exception of the twenty-four plots already referred to) is thrown open to corporations and nationals of all countries.

Iraq is a far distant and isolated land lying off the main world trade routes. A passenger travelling by sea to Bagdad from New York, after the week to reach Great Britain, would require four to five weeks more to reach Bagdad via France, India and the Persian Gulf, and would have covered over 11,000 miles. The nearest seaport to Bagdad is Busrah, at the head of the Persian Gulf 500 miles to the southward and the latter port, in turn, is 1900 miles away from India.

So far as plant and equipment are concerned, the last 500 miles of the journey to Bagdad is by the river Tigris, which has a maximum draft of three feet six inches in dead low water season. It is a river noted for its shifting sand banks and channels and in general for the difficulties it has always provided for the masters of the vessels who ply between Busrah and Bagdad.

The Kingdom of Iraq is as yet in its infancy with many external problems and internal troubles awaiting settlement. Great Britain is engaged in an endeavor to impart to that country and its peoples sufficient help and guidance to enable them at the earliest moment to stand by themselves and to bring about Mesopotamia's entry into the League of Nations. Fundamental to a country's existence is the creation and maintenance of revenue and it is hoped that the development of Iraq's oil resources may make a substantial contribution to that end but the answer to that question lies with that final arbiter of all petroleum questions—the drill.

Many Unsolved Problems

Conditions within the country are still primitive. Compared with other lands petroleum consumption is so small as to be negligible. Questions of transportation, labor, local customs laws and language constitute definite factors to be reckoned with no less than the psychological aspects attendant on all Eastern trading.

With such a background, it will be clear that in order to make the concession of practical value to any prospective individual producer, some organization with resources and means adequate to carry out exploration and development and to build the necessary pipe line or pile lines to bring the oil to a shipment point or market, is essential. Therein lies in large part the function of the Turkish Petroleum Co., Ltd.

The provinces of Mosul and Bagdad possess an area of approximately 90,000 square miles. Out of this the Turkish Petroleum Co., Ltd., will be permitted to select the twenty-four blocks of eight square miles each, already referred to. This is something less than one-quarter of one per cent of the area of the concession.

A period of three years is allotted by the Iraq Government for a comprehensive geological survey of the country and the selection of the first twenty-four plots. This survey will commence within six months of March 14 of this year. Following this all geological data so obtained is to be made available to any bona fide applicants for leases. Twelve months after the selection of the twenty-four blocks by the Turkish Petroleum Co., Ltd., any individual or company may indicate a plot for inclusion at the annual auctions, the total plots so indicated and offered to be twenty-four per annum. All plots offered will be advertised in the leading oil papers of the United States, Great Britain, Holland and France. When a plot has been purchased, a standard form of lease will be issued to the purchaser, who will deal directly with the Turkish Petroleum Co., Ltd. Such lease will cover all the general conditions under which the Turkish Petroleum Co., Ltd., hold the concession and each individual operator so far as the terms of the lease are concerned, will be on an exact parity with any other individual or operating company; by this means sublessees avoid difficult and tedious negotiations with local authorities. Moreover, each sub-lessee's obligations, rights and privileges will be set out and well understood, thus making it possible for the small producer to operate under a set of conditions clearly defined beforehand.

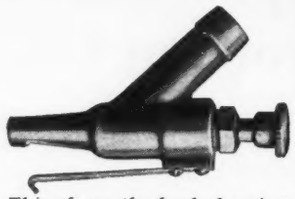
The royalty payable by sub-lessees will be, as in the case of the Turkish Petroleum Company, Ltd., a sum equivalent to 4 shillings per ton (96 cents at present exchange), subject to modification based on average market price and fluctuation in costs after twenty years. There will also be a royalty of the present equivalent of 4 cents per thousand cubic feet on natural gas sold.

Individual prospectors may indicate blocks and bid for them four years from March 14, 1925. They will be required to drill 1500 feet in the three years subsequent to the execution of the lease and thereafter not less than 500 feet per annum until the block has been fully tested.

Another point is the question of transportation of sub-lessee's crude. Under the provisions of the concession the Turkish Petroleum Co., Ltd., is obligated to reserve 30 per cent of pipeline

LOOK AT THIS NOZZLE

It is One of the Features of the



This shows the hooked spring arrangement on the Runyen Nozzle. Service men will appreciate this device.

RUNYEN 100 POUND DRUM GREASING OUTFIT

Here is the Runyen 100-pound, portable greasing outfit No. 32 with the Runyen high pressure attachment, which allows one man to give transmission and differential lubrication as well as chassis lubrication from the same drum. This outfit greatly facilitates the handling and selling of grease and means saved time and increased profits for dealers and service men. And then, too, the "Stay Put" nozzle makes greasing a one man job.

High Pressure Attachment

This attachment may be used on any greasing outfit. With the Runyen you have two hose always ready to serve two or more purposes. It is not necessary to change connections. You will be interested. in our prices. Write for details.

Runyen Improved Grease Cabinet

This cabinet is used widely by filling stations, garages, power plants, mines, steel mills, factories, railways and railroads. It is a convenient, practical combination of container and substantial pump for greases and oils. With each stroke of the handle it delivers a quarter of pound of grease or heavy oil.

Has a record of 10 years of unfailing service. Capacity 30 pounds. Correctly designed, properly constructed, and will stand up. Shipped in individual cartons. Weighs 10 pounds. Let us quote you on the Runyen.

Write for Prices and Particulars

PULTE-KORRECK MACHINE COMPANY

Ionia Ave. Grand Rapids, Michigan

capacity for carriage of sub-lessee's crude to market or export port and will occupy the same position as the large purchasing companies in the Mid-Continent field who are currently in the market through their posted price, to purchase production from day to day, from any sellers. In order to facilitate development and operation, the concession provides that areas which remain unsold after offer at public auction may then be operated by the Turkish Petroleum Company, Ltd.

If, and when, as a result of the very considerable outlay they will be obliged to make, the Turkish Petroleum Company, Ltd., succeed in showing that the concession area, or part of it, is oil productive and when pipelines have been installed then Iraq, or Mesopotamia, as it is sometimes called, can be developed in exactly the same manner as Burbank in the Osage.

The great fact of the subleasing plan will be that a company or individual producer has the same opportunities to produce oil in Iraq as he would possess in the United States, because once Iraq has been demonstrated to be a potential oil producing area such as Oklahoma, Texas or California, etc., then the plan makes possible the transposing of the American set of oil-producing conditions to this far distant Oriental country.

Information on Poisons to be Distributed

CHICAGO, May 7.—A series of data sheets on common industrial poisons is to be issued under the supervision of the committee on industrial poisons of the chemical section of the National Safety Council. These sheets will be published for general distribution, a separate sheet for each substance.

The list of substances include aniline, arsenic, benzol, carbon bisulphide, carbon monoxide, chlorine, chromium, hydrogen sulphide, lead, manganese, nitrous fumes, phosphorus, toluol and picric acid.

The data sheets outline not only the mechanical forms of exposure to the material and the characteristic medical symptoms but also general preventive methods or precautions to minimize the danger. Another feature of practical value is the advice given on special training or emergency equipment to meet any acute exposure that may result from accidental leakage.

The National Safety Council's address is 168 North Michigan Ave., Chicago. Those who desire advice on particular problems should communicate with the chairman of the chemical section of the Council. He is A. L. Watson, Hooker Electrical Co., Niagara Falls, N. Y.

Give Figures on Saving Tanks With Tight Roofs

CHICAGO, May 8.—Actual figures on the saving to the oil company in equipping its crude oil tanks with vapor tight steel roofs have been compiled by The Graver Corp., tank manufacturers, from surveys conducted by two oil companies in the Mid-Continent field.

"The use of vapor tight roofs and our system of taking off the vapors at our refinery and condensing them has reduced our losses one and a half per cent," stated V. R. Oakley, refinery superintendent, Waite Phillips Co., Okmulgee, Okla. "With 5500 barrels of crude being handled per day this means we are saving 82½ barrels of gasoline per day. At the present price of 8¼ cents per gallon, this gasoline is worth $283.76 per day. We figure this economy pays the extra cost of the steel vapor tight roofs in less than three months.

"We have two 55,000—barrel and four 10,000—barrel Graver vapor proof tanks, and also other smaller tanks. These tanks are used for storing about 150,000 barrels of crude oil and for storing gasoline. We draw off the vapors which form in the tanks and condense them to gasoline under 60 pounds pressure in a pressure condenser.

"The wooden type tanks are leaky. They allow currents of air to blow through the tanks and carry away the volatil parts of the oil. Furthermore, the expansion and contraction of the contents of the tank, due to atmospheric temperature changes, causes part of the vapor to leave the tank and outside air to come in, setting up a sort of breathing action.

Require Little Attention

Besides being responsible for vapor losses, the wooden roofs are expensive to maintain. They require a rather complete overhauling about every two years. This cost about $600 for labor and material. Whenever such a repair is made the tank must first be cleaned out, and the removal of B. S. is a considerable expense. The steel roofs on the other hand last indefinitely. Aside from painting they require no attention.

The second company, whose name is withheld by their request, stated through one of its executives:

"At two of our tank farms in Oklahoma we have several vapor tight tanks of 55,000 and 80,000 barrel capacity built by the Graver Corp. They are equipped with mercury safety valves made by the Petroleum Safety Appliance Co., which limit the pressure or vacuum on the tanks to approximately a half ounce per square inch.

"The vapor is discharged and the vacuum relieved by vents carried over the sides of the tanks. A ten-inch pipe is used in the case of the 80,000-barrel tanks and an eight-inch pipe for 55,000-

(Continued on page 176)

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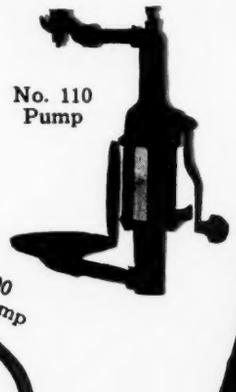

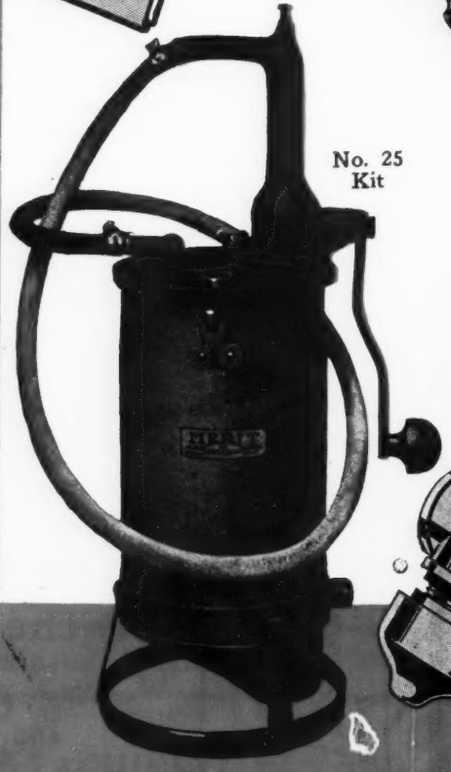

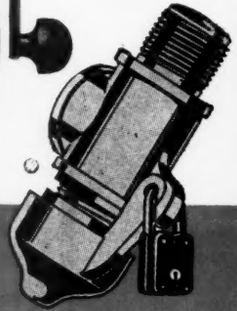

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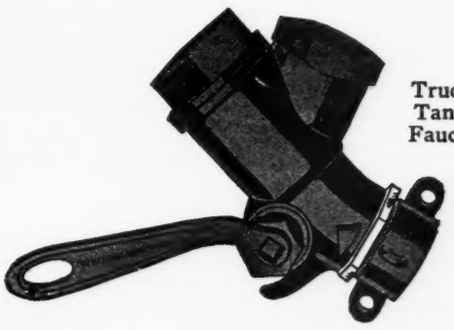
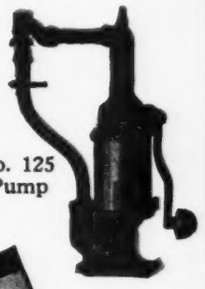
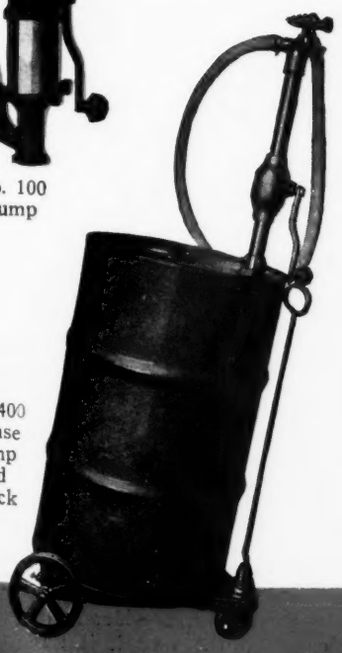


Truck Tank Faucet



No. 125 Pump

No. 100 Pump



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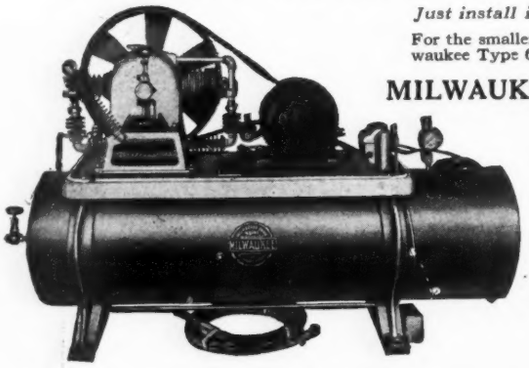

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DEFIANCE OHIO

barrel tanks. If two vent lines are used on a tank they are placed parallel, rather than run off in opposite directions, to prevent the possibility of a draft being set up through the tank. Fine mesh wire screen covers the ends of the vent pipes to keep a flame from igniting the tank in case of fire.

Two Causes of Evaporation

The loss of oil by evaporation in tanks that are not vapor tight is caused in two ways. One is by air current through the tank and the other by discharge of vapors when the temperature rises. Of these two the first is by far the greater. By making the tanks vapor tight the windage loss can be practically eliminated. The loss due to temperature rise is reduced, although not eliminated, by means of the safety valves.

"In tanks that are not vapor proof the loss by evaporation averages between 7 and 8 per cent per year for the first year or two. In our vapor proof tanks equipped with the safety valves the loss is approximately one per cent per year. The reduction of approximately 6 per cent in the loss means a saving of 4800 barrels per year for an 80,000-barrel tank. The oil lost is the most valuable part of the crude. The actual price varies with the market conditions but, figured at 8 cents per gallon, the saving per year due to the vapor tight construction amounts to $16,128 for one 80,000-barrel tank. As the additional cost of the vapor tight roof is about $6000, the extra expense is repaid by the oil in five months.

"In order to reduce the amount of temperature change, we have painted the roof and top ring of each of our tanks with aluminum paint. We find that aluminum paint mixed in small quantities, as it is used, gives the best results. As the light is reflected instead of being absorbed, the temperature of the tanks is kept 30 degrees cooler on hot days than tanks painted black or red.

KANSAS CITY, May 7.—The Missouri Oil Men's Association will hold its spring meeting and annual election of officers on May 21 and 22 at the Hotel Elms in Excelsior Springs, Mo. The invitations sent out by Secretary George S. Allee insist that jobbers, refiners and producers all attend. It is announced that the state oil inspector will be on hand to explain all the details of carrying out the gasoline tax law.

PHILADELPHIA.—National Speedway Refining Co. has purchased two trucks within the past month, according to Joseph Handler, president. If business keeps up the way it is now, the company will be in the market for two additional gasoline trucks and one oil truck, Mr. Handler says.

WASHINGTON, D. C.—Thomas J. Crowell has just finished rebuilding his bulk station which was destroyed by fire on Jan. 23. The station is located at Fort Runyon siding, at Washington, Va.

Educating Firemen Cuts Coal Consumption From 30 Cars a Month to 14

By Paul Truesdell

N. P. N. STAFF WRITER

BRADFORD, PA. May 7

PICTURE to yourself a refinery set in a beautiful valley surrounded on all sides by high, wooded, green hills from which it draws its crude supply; hills so high that the oil will flow by gravity from the leases into the crude tanks at the plant.

Then add to the picture a boundless supply of water gushing from four artesian wells in the refinery yard, water so pure that you can run a boiler on it for 18 months and at the end of that time, when you clean out the boiler, put into a quart measure, all the scale and solid deposits the water has left; water so pure that it does not corrode and eat out the tubes in your condenser coils. Water into which you don't need to put any softening agent or boiler compound.

A pretty picture isn't it? It depicts the plant of the McKean County Refining Co. at Farmer's Valley, 14 miles from here.

Frank F. Moore, who has had more than 20 years experience as a refiner in the Warren district, is president of the company. B. B. Stroud, an engineer with long experience in the natural gasoline industry, is secretary and treasurer. These two have their eyes open constantly for ways and means by which the operation of the plant may be made more efficient, in the way of equipment, operating methods and processes. And they are carrying on a campaign of education among the employes at the plant that is bearing fruit in a remarkable way.

Let's turn the pages of the album while we look over the equipment of the plant in detail. First there is the boiler plant. This is the heart of almost any refinery, certainly any one operating on Pennsylvania crude.

At this refinery the power plant consists of two Keeler water tube boilers, rated at 250 horsepower each, coal burning and hand fired. The boiler is fed from Worthington feed water heaters controlled by Copes regulators. The heaters derive their heat from the exhaust steam from the plant, and they send the water into the boilers at around 228 or 230 F.

The boiler plant was designed and the flues built with the idea of putting superheaters in them to take the waste heat out of the flue gases before they reach the stack but these have not been installed as yet. Even now, the temperature of the stack gases runs only between 500 and 600 F. The 150-foot stack was built with an eye to the future. It is big enough to take on more boilers if they are ever needed.

Republic meters are placed on the faces of the furnaces, above the fire doors, constantly registering before the fireman's eyes in big black figures, the horsepower that his boilers are developing at that moment. It keeps him on his toes. The boilers run at 125 to 130 pounds pressure. They used to run both boilers all the time, generally both far below their rated capacity. The firemen insisted that one boiler could not carry the peak load and that the other must always be under steam to help out when help was needed.

B. B. Stroud, secretary and treasurer of the company, is an engineer. He has not been in the refining end of the business very long but he has had long experience in the natural gasoline business and engineering is engineering. He set out to educate the firemen to the fallacy of running two boilers at half capacity when one, run to full capacity, could do the work.

He knew that you get a great deal farther in putting better methods across if you show the men what you are trying to do and why and enlist their support—sell them on the idea—instead of merely making them do what you want against their will. Workmen can often gum up any program if they are not in sympathy with it and do it in such a way that it can't always be brought home to them either.

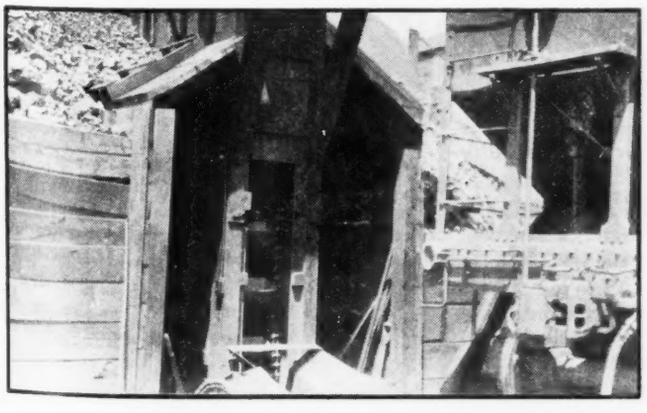
About the first thing that Mr. Stroud caused to be done in his fuel saving campaign was the analysis of the flue gas for carbon dioxide (CO_2) content. The percentage of carbon dioxide in the gases in the flue is a pretty accurate measure of the completeness with which the fuel is being burned, whether in a coal, gas or oil fired furnace. If you burn your fuel more completely, of course, you won't have to burn so much of it and your fuel bill will be cut down.

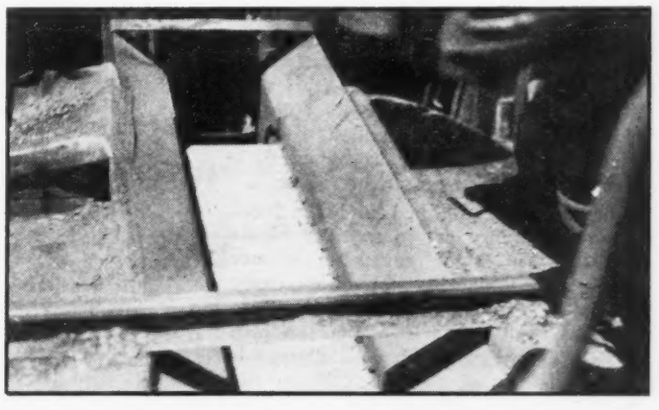
CO_2 Content Was Low

The first test of the flue gases showed a very low carbon dioxide content which showed that the firing was not being done efficiently. They thought of putting in a continuous CO_2 indicator and recorder but the size of the plant was so small that they decided the cost of installing such an apparatus, and especially of assigning one man all his time to the task of taking care of it, keeping the fluids changed when required and so on, was not justified.

But they accomplished the same purpose more simply and cheaply. They bought a simple, modern Orsat apparatus from the Joseph Hays Corp., Michigan City, Ind., and they knocked a few bricks out of the flue wall where the hot gases leave the last bank of boiler tubes, and put in a little cast iron door through which it is handy to take samples of the flue gas.

And they do take them and analyse them at frequent intervals. One thing





The coal conveyor at the McKean County Refining Co. plant. The picture on the right shows the belt conveyor that runs down under the tracks at each end of the car. This conveyor carries the coal up to an elevator, shown at the left, and loads it into the endless chain buckets that carry it to the top of the pile

that they got from the Hays corporation that was worth almost as much as the apparatus itself in bringing home the lesson of fuel economy to the firemen, was a table on the back of the book of instructions for handling the apparatus. This table had been figured out by combustion engineers and showed the percentage of preventable waste of fuel indicated by various contents of CO_2 in the gases.

The firemen were taught how to fire efficiently, not to admit too much air and to keep their fuel bed even and free from holes. They were also shown from this table just how much waste of fuel was the consequence of poor firing. The boilers are equipped with constant pressure recording devices also that keep a record of the pressure maintained throughout the 24 hours by the three shifts of firemen.

When a fireman's record shows widely varying pressure it is a sign that he has not been firing carefully and a CO_2 test is run on him. Then he is shown just how much fuel he is wasting. Superintendent George Probert, who is directly in charge of the plant, says that there is considerable rivalry among the firemen now in the matter of efficient firing. None of them wants the others to beat him. The boilers are equipped with Vulcan steam soot blowers to keep the soot from collecting on the tubes.

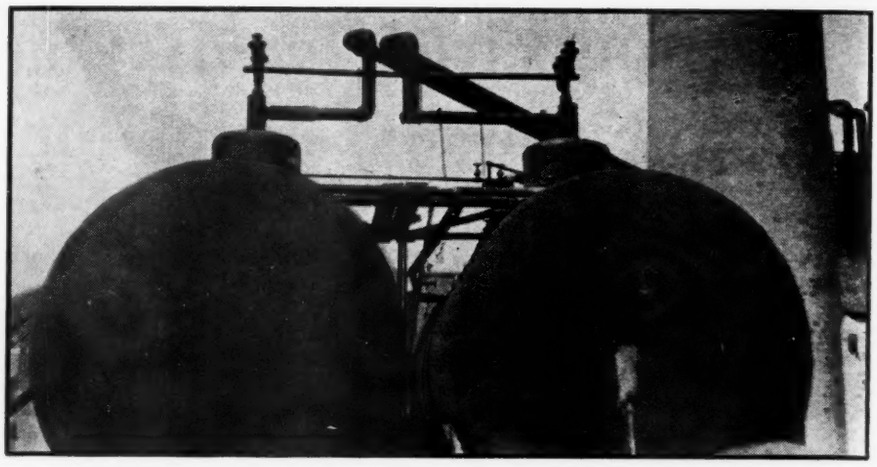
Mr. Stroud said that the improvement in firing that has been accomplished during the last few months has resulted in the saving on the average of 30 pounds of coal to the barrel of oil run through the stills and Mr. Probert says that the refinery used 14 cars of coal in April against 30 in January, running just about the same amount of crude each month.

The Firemen are Sold

Now most of the time there is only one boiler with steam up. The fire in the other is banked so that it can be broken up and steam raised in a few moments but the occasions when it is necessary to use both of them are rare. Not only does this cut the consumption of coal enormously but it makes the work much easier for the firemen. They now believe thoroughly in the new method of running the boiler plant.

In connection with the boiler plant, the refinery has an inexpensive and handy way of unloading the coal cars. Instead of doing it by hand, there is a mechanical conveyor system. This consists of two sloping conveyors set just below the rails and at such a distance apart that one is under each end of a car when it is rolled up on the siding.

The cars are dumped and the conveying machinery set in motion. It is operated by two seven-horsepower motors. The slanting conveyors carry the coal to two small vertical elevators which lift and dump it at the top into slanting chutes which distribute it around the top of the pile. From the pile it feeds down by gravity as needed through sheet iron doors into the boiler house, directly in front of the furnace doors. Photographs of the coal conveyor are shown herewith.



The two steam stills at the plant of the McKean County Refining Co.

The live steam from the boilers is used for operating the pumps about the plant and for running a steam engine connected to a 45-kilowatt generator which generates electric current for the use of the refinery and also for the use of the plant of the Bradford Gasoline Co., an allied company, whose natural gasoline plant is at Coleville, five miles away. The refinery and the gasoline plant each use about 35 horsepower of electric current to drive motors, furnish lights and so on.

While the boiler capacity is 130 pounds pressure, there is a reducing valve in the steam line to the stills that reduces the pressure to 70 pounds and the pumps are set to operate at 100 pounds so there is a wide margin of safety. In other words, the boiler could be working at very low efficiency and still would furnish enough steam to run the equipment.

The use of steam in the stills is regulated in a way that so far as we know is not used in any other refinery. While in any refinery it is desirable to know how much steam is going into the stills, in a plant where the residue is used for the manufacture of lubricating oil it is vital to know how much steam is being used.

While the only harm that can result in a plant where steam is used in distilling light oils or in rerunning, is waste of steam through the use of more than necessary, in this plant too little steam would result in "burning" the oil, that is cracking it so that color forming compounds are formed making the oil dark and perhaps hurting its quality in other ways for cylinder stock.

Measuring Steam to Stills

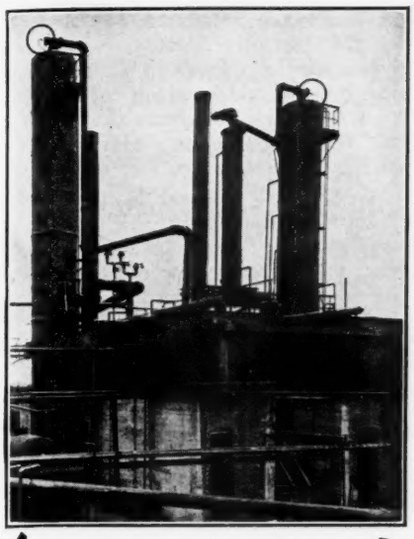
On each of the stills of the McKean County refinery where steam is used a Republic manometer is installed. This device consists of a U-tube containing mercury which is set in a little box at the back of the still where it is handy for the stillman to see. Between the horns of the U-tube is a scale calibrated in pounds of steam. This scale moves up and down on guides.

In the two-inch steam line going into the still an orifice plate is fixed, the size of orifice being calculated to the purpose. On each side of the orifice plate there is a small pipe connected into the steam line on the same principle as any steam meter. One of these pipes runs into the top of one arm of the U-tube and the other pipe into the top of the other arm. The pressure of the steam drives the mercury on the pressure side of the tube down and up the other. To determine the volume of steam going into the still, the sliding scale is adjusted so that zero on the scale is opposite the level of the mercury on the pressure side of the U-tube. Then the height of the mercury in the other tube is read on the opposite figure on the scale and the reading multiplied by 8.33 to give actual volume going into the still. There are two of the manometers on each still, because steam is admitted at each end and there is a measuring device for each line. This equipment costs about $90 for each still.

The distillation and fractionating units at this plant are interesting. The still equipment consists of four fire and two steam stills. The fire stills are 10 by 40 feet with a capacity of 575 barrels each while the steam stills are each of 625-barrel capacity. The fire stills are set high to give room so that the gases will have time enough in the furnace to be completely burned and also to give up their heat to the contents of the still.

Contrary to the practice in most refineries, the crude here does not go first into a fire still. Instead, it goes cold into one of the steam stills where it is raised to about 275 F. with exhaust steam. By the way, these are steam stills only, having no fire boxes under them at all. In the steam stills the lightest fractions are taken off down to 60 gravity making a 68-70 motor fuel right off the still without further treatment or rerunning.

There is a refluxing system on the steam stills that consists simply of a rise in the vapor line which is 8-inch on one of the stills and 10-inch on the other. The vapor lines, which are long and heavily insulated, run on a slant toward the condenser. Just before the



Two of the Control Towers. Circles show thermocouples installed at top of towers.

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line reaches the condenser there is an elbow and a length of pipe about 10 feet long goes straight up in the air.

Heavy Ends Knocked Back

When the vapors strike this sharp elbow and the abrupt rise, the velocity of their flow is retarded and the heavy ends are condensed and knocked back. A three-inch vertical nipple is connected into the vapor line just under the elbow and this is connected to a three-inch reflux line that leads back into the still. Then the lighter vapors keep on their way through the condenser and on to the tail house as finished high-test gasoline.

On the fire still, used for re-running, the vapor lines pass to a dephlegmator that is simple and inexpensive in construction but which has been found very effective. The dephlegmator consists simply of a larger drum and a smaller drum mounted on top of each other with a section of Southwestern condenser between them. An accompanying photograph shows the dephlegmator and condenser of the rerun still.

The lower drum is about three feet in diameter by four feet high and the upper is of the same diameter and about a foot shorter. The vapors enter the bottom of the lower drum, which contains three trays packed with tile filling. The heaviest ends, their velocity slowed up and a surface offered for condensation, condense and reflux back into the still. The intermediate vapors which pass up through this lower drum, are condensed by the greater cooling action of the condenser section in the middle and only the lightest go on into the upper drum and over the top to the condenser. There is only one condenser box and it is equipped with Sterling section. All others are Southwestern closed condensers.

Here is the way the distillation is run at this plant. From the steam still, the reduced crude goes into the first fire still. The first cut taken off in the fire still, from 59 gravity down to 48.5 gravity, is thrown in with the stock to be rerun. The cut from 48.5 to 42 is the kerosene cut; 42 to 40 gravity is taken off and run into the rerun stock to give it bottom; 40 to 38 gravity is straw colored fuel; 38 on down to the bottom is distillate running about 34.4 gravity and the residue is 600 or 650 cylinder stock.

On the rerun stills, the first cut taken off is 60 to 59 gravity which makes a finished 62 gravity gasoline with a 110 initial and 350 end point; 59 to 47 gravity is a 440 end point 53 gravity naphtha; 47 to 42 gravity is water white kerosene distillate and the bottoms are fuel oil.

Here is a typical distillation test of the stream going over the top of the dephlegmator from the rerun still and going into the tail house and the stream coming off the bottom of the dephlegmator at the same time. The naphtha, of 47.1 gravity, had this distillation range, marked off in 10 cubic centimeter over points.

Initial boiling point	372
10 cc over at	388
20 cc over at	392
30 cc over at	396
40 cc over at	400
50 cc over at	406
60 cc over at	410
70 cc over at	416
80 cc over at	426
90 cc over at	440
95 per cent	460
Endpoint	482

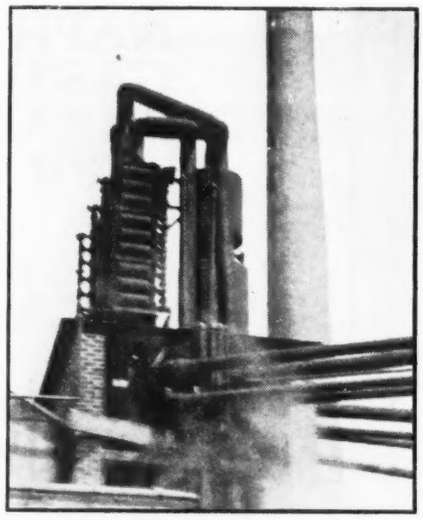
The reflux from the dephlegmator had the following distillation range, marked off similarly in 10 cc. points.

Initial	423
	436
	442
	448
	455
	461
	470
	480
	495
90 per cent over at	516
95 per cent over at	538
Endpoint	560

The high initial boiling point of the naphtha made at this plant makes it exceedingly desirable for blending with natural gasoline and large part of the refinery output is sold to the Bradford Gasoline Co. for this purpose. Here again the McKean County refinery is blessed because the naphtha is transported from the refinery to the natural gasoline plant through a two-inch pipe line, the gasoline company furnishing the pump to transport it.

Because of the fact that there is no freight charge on the transportation of this stuff, the refinery collects a price for it on a par with what other gasoline would have to bring to cover the freight rate.

The kerosene is the only product at this plant that is given an acid treat and no product is doctor treated. Kerosene is treated in the conventional way with acid and caustic soda by the batch system in an agitator. The managers of this plant pride themselves particularly on the light color of their high fire test cylinder stock which they attribute to the fact that they are careful to get just the right amount of steam into their stills.



The condenser and dephlegmator of the rerun still at the McKean County Refining Co. plant. The condenser on the left is made up of Southwestern condenser section. The dephlegmator is on the right showing the two drums, one on top of the other, with a condenser section, water cooled, between them

One of the unusual features of this plant is the manner in which the surplus water supply is handled. The four artesian wells referred to must be pumped off or they would overflow the refinery yard and the volume of water they produce is considerably beyond the current needs of the refinery. One of Mr. Stroud's ideas was to build a big reservoir on top of one of the hills surrounding the plant and the pump "floats" on this reservoir.

The top of the hill where the reservoir is located is more than 200 feet above the level of the plant and the water is under a head of 110 pounds on account of the elevation. The pumps work continuously. The water that they draw from the wells that is in excess of the plant requirements going into the reservoir.

If the pumps should fail, there is sufficient head on the reservoir to force the water to all the places it is needed in the refinery. It contains about 1,500,000 gallons of water and furnishes excellent fire protection. Notwithstanding the plentiful supply of water, Mr. Stroud does not believe in wasting it. For one thing, he has an electric water level indicator on the wall at one of the plant buildings that keeps a continuous record of the depth of the water in the reservoir and shows when any heavy drain is made on it. There is a standing order in the plant that the depth of water in the reservoir is to be kept at at least four feet.

Another installation to prevent waste of water in the condensers is an automatic temperature control on each of the condensate lines. Just ahead of the look box on each line, a thermocouple is inserted into the line. This is connected through a flexible brass tube with an automatic device, governed by the temperature, which opens and closes the valve in the water line to the condensers.

Thus, the temperature at which the distillate is wanted to come into the tail house is determined and the control devices set accordingly. When the condenser water heats up so that the oil is hotter than the predetermined temperature, the thermocouple, recording the higher temperature, operates the control to open the valve and let in more cold water. If the condensate coming over gets too cold, that is a sign that too much water is being fed into the condenser and the valve is closed.

On a plant with the ordinary source of water supply, it would be necessary to hook up these automatic controls so that the mechanism would speed up or slow up the pump as occasion required but at this plant it is merely a matter of closing or opening the valves

(Cointnued on page 188)

Clothing and Other Personal Effects Should Be Taken to Venezuela

By Arthur Knapp,
Petroleum Engineer, Philadelphia

ONE of the most serious questions which confronts one who is about to travel to Venezuela is that of wearing apparel. If the oil field worker outfits himself exactly as he would for mid-summer in California or Oklahoma he will not go wrong. Only straw hats, light weight suits and bedroom slippers may be purchased to advantage outside of the States. All other clothing should be brought in sufficient quantity to last for the entire period which the traveler expects to be away from the States.

Almost anything may be purchased in Venezuela at a price but the quality is usually inferior. Shoes and underwear are particularly unsatisfactory and essential jewelry such as cuff links and collar buttons are hard to purchase.

As it is warm all the year around in Venezuela, except very high in the mountains, the traveler should leave the States, even in mid-winter, with the minimum of winter clothing. Heavy clothing will usually be discarded for light clothing on the third or fourth day out of New York in winter time. Wool shirts are seldom worn but many find that wool socks are a great protection against mosquitos. Geologists, engineers and others may expect to do horse-back riding and leather faced canvas leggings and shoes are suggested as part of the equipment. The best grade of leather boot is also essential. Those who expect to work on drilling wells or on production should bring but one pair as boots are too hot to wear around the rig most of the time. Good work shoes should be brought in sufficient quantity to last out the contract.

The traveler who wears glasses should have several extra pairs. Several watch crystals should be brought. The usual toilet articles and supplies should be brought in sufficient quantity to last the contemplated trip. Unless the traveler is coming out absolutely independent of the established companies, no medical supplies need be brought as every camp has a plentiful supply. Anyone who expects to make only a short visit will find the established companies very generous with their medical facilities in case of need. One pair of colored glasses should be included. No stiff linen collars should be brought as they cannot be laundered. Semi-stiff detached collars may be used.

Order tropical packed camera films to bring to Venezuela. They will last some time before they are exposed. Several firms in Maracaibo do very satisfactory work of developing and printing.

Those who come to Venezuela to work and expect to stay a year or more should purchase the best grade of material for their outfit as the laundries are hard on clothes. The following is a suggested list of clothing:

Hats:
Panama (purchase at Caracas)
Straw (purchase at Porto Rico)
Felt
Light weight cap

Suits:
Khaki trousers
Khaki coat
White drill suits (order at Maracaibo)
Thin Mohair suit (not essential)
Riding breeches

Shirts:
Thin white or blue cotton work shirts, collars attached
White linen collars attached

Ties:
Bow ties are satisfactory
Four-in-hand ties of good quality should be brought

Belt:
Bring several

Socks:
Light colored cotton or wool. Bring plenty

Shoes:
Work shoes
Low white canvas with high heel, good quality

Boots:
High, waterproof leather, best grade

Handkerchiefs:
Bring plenty

Raincoat:
Best grade of light weight rubberized fabric

(Continued on page 190)

Gained from Experience

ARTHUR KNAPP, who has been visiting the oil fields of Venezuela, was asked by National Petroleum News to comment upon such things as struck his fancy. He tells in this letter about the material and equipment required by one who enters the country to make more or less of a stay. It would occur to anyone going there for the first time that the clothing suitable for a temperate climate would not be that needed in the tropics, but Mr. Knapp tells just what should be taken. A number of incidentals that might be overlooked are also discussed.

As he is seeing this rapidly developing oil country in close detail—spending plenty of time to look at it thoroughly—Mr. Knapp's impressions are right to the point. More of them will appear soon.—Editor.

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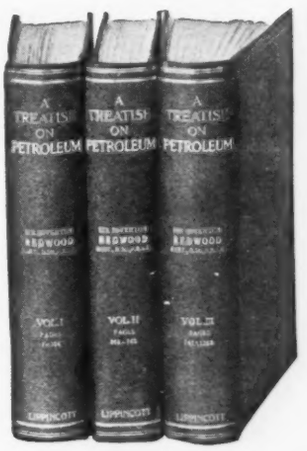

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National Petroleum News

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so that more or less of the water handled by the pump goes into the reservoir.

One considerable revenue producing adjunct of the plant is a neat filling station right at the gate which dispenses 62 gravity 350 end point gasoline to motorists. This station, which is in charge of Irwin Probert, son of the plant superintendent, does a large business, being on a wide and well travelled through concrete highway. Mr. Probert says that sometimes the station takes in as much as $90 in cash on a busy day, and this is in addition to large sales to oil producers, for trucks, which is done on credit.

The reclaiming plant for gases escaping in the tail house and from tanks, was described in an earlier issue of N. P. N. All the tanks are fitted with gas tight tops and are connected to this reclaiming system. The refined oil storage tanks were painted with aluminum paint about a year ago and the paint is standing up very well.

One great convenience for the employes of the plant is a 10-car garage that Mr. Stroud had put up last winter. Most of the men have to drive to their work on account of the location of the plant and they had lots of trouble with their cars freezing up when they stood around the yard in cold weather. Mr. Stroud had the garage built of corrugated sheet metal and lined with celotex. There is a stall for each car and against the front wall of each stall, right where it will be right up against the radiator of the car, is a steam coil, fed by exhaust steam from the plant. This keeps the cars warm in the coldest weather. They not only do not freeze but they start easily.

Indian Sues on Joint Rail-Pipeline Rate

WASHINGTON, May 7.—A wholly novel and potentially important question in the matter of transportation rates on petroleum and its products has been raised by the Indian Refining Co. of Lawrenceville, Ill. by means of a complaint against the Louisville & Nashville Railroad and its own pipe line, the Indian Pipe Line Corp.

In that complaint it alleges it has been forced to pay unreasonable and illegal charges because it was required to pay, within the past two years, a rate of 15 cents per 100 pounds on crude from Kentucky wells to Owensboro, Ky., instead of a proportional rate of only 12.5 cents, on about 8500 tank cars of crude, shipped by it to its refinery at Lawrenceville.

That proportional rate of 12.5 cents applies on traffic going to Evansville and other Ohio river crossings when destined to points beyond. Lawrenceville is a "point beyond" the specified crossings.

Under what is known as an intermediate application rule, the 12.5 cent rate, it is argued, is to be applied to shipments going to points intermediate between the points of origin and the crossings.

Owensboro is a point between the places where the crude originated, none more than 170 miles from Owensboro, and Evansville or other crossings of the Ohio to which the rails of the Louisville & Nashville lead.

The pipe line of the complaining interest starts at Owensboro, so far as the traffic involved is concerned. A proportional rate is defined as one that is usually less than the one applying to a specified point at which the traffic is to come to rest. It is made, usually, to a point at the end of the rails of the publishing carrier, to be applied on traffic going beyond that end, to a point on the rails of some other carrier or carriers. It is often made so that the carrier which brings the traffic to the end of its rails will not be compelled to choose between its connections as the agent for further transportation. It is made lower than the local rate because the same commodity can come to the "beyond" territory via other routes on a lower combination of rates.

Up to this time a proportional rate has always been understood to be applicable only if and when the traffic is carried beyond the end of the originating line by another railroad.

In the case created by the complaint of the Indian Refining Co. the fundamental question is whether there can be an enforceable combination of a rail proportional rate and a pipe line rate. The secondary question is as to whether, under the intermediate application rule, the 12.5 cent proportional rate applicable, without question, on traffic going to the crossings, the Louisville & Nashville can be required to give the benefit of that proportional rate on traffic stopped short of the crossings, that is to say at Owensboro.

If that combination of rail and pipe line rates can be enforced, the Indian will be entitled to recover $106,500, assuming that each tank car carried 50,000 pounds. That estimate of 50,000 pounds would be low unless the Kentucky crude was carried in very small tank cars. Thus far the inclusion of pipe lines among the common carriers has proved a farce so far as their use by other than their proprietary interests is concerned. Nowhere in the country, so far as is known, is there such linking together of rails and pipe lines as to create through routes. They operate independent of each other.

In the informal correspondence on the subject one of the points has been that the oil was unloaded from the tank cars and put into tanks at Owensboro, thus, presumably bringing the transportation to an end, although as a matter of fact the cars were stopped there because the combination of rail and pipe line rates would be less than the all-rail cost of transportation to Lawrenceville. There is no law forbidding a shipper to stop his traffic at the point which will give him a rate that will be less than the charge if the traffic were not stopped.

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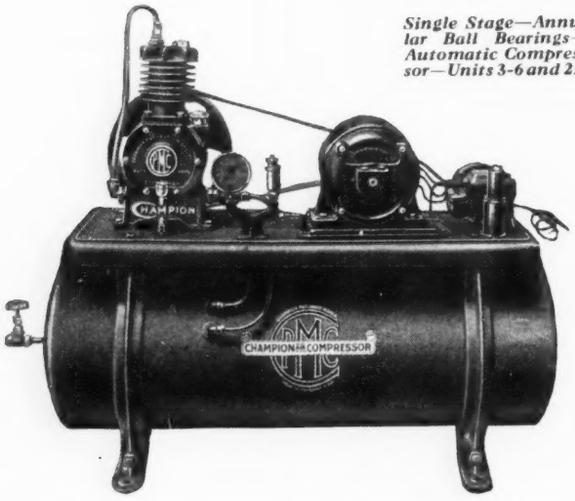

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(Continued from page 187)

Bathrobe:
Light weight. The raincoat will do for a short stay

Underwear:
Athletic type

Pajamas:
Good quality

The Venezuelan customs service is liberal in allowance of clothing which is admitted duty free. Nevertheless, it is better to have the outfit have the appearance of having been worn. A complete outfit of all new clothing might be subjected to a heavy duty. The traveler will experience no difficulty whatsoever in entering the country if he has the ordinary travelers outfit. Arms and ammunition may not be brought in.

A passport with the vizé of a Venezuelan consul in the United States and a vaccination certificate not over seven years old is all that is necessary in order to enter Venezuela. There will be the minimum of red tape as the traveler goes ashore from his ship.

At present there are so many English speaking people in Caracas and Maracaibo there is no difficulty in getting along without speaking Spanish. Many natives speak a little English and there are many negroes from Trinidad or Barbados who speak English.

The hotels are not to be compared with those in the States but the hotels of both Caracas and Maracaibo are quite comfortable, and several hotels in each place cater particularly to the English speaking trade.

Venezuela is a disappointment to many travelers as it lacks the picturesqueness. In many parts the scenery is monotonous, although fine scenery may be found in the mountains. The cities and towns are almost universally drab. Usually the houses of the better class are built around a central court and many of these courts are wonderful gardens, but the outside of the houses is usually blank walls and barred windows.

Viewing the Antiques

In Maracaibo and vicinity, wherever one turns there will be naked babies and goats. The beasts of burden are small mules and smaller donkeys, and the donkeys are thicker than Fords in an American town. At Porto Cabello I hired an English speaking colored boy to show me the town. I told him that I wanted particularly to see any old buildings. After a long walk we came upon a building which he said was old, as a matter of fact, it was there when he first arrived in Porto Cabello when he was ten years old and, as he was now twenty-one, the building must be at least eleven years old and was an old building.

He asked me if we had donkeys in the States, and when I told him that we seldom saw them except in certain places in the southwest, he asked me how we got our food home from the market. To go back to those naked babies, it is a common sight to see a fond mother on the street car with a

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You can stop many motorists who now pass you by. You can increase your sales by compelling their attention far up and down the streets. *Both* night and day, a Flexlume Electric Sign will fairly shout your service message and turn the tide of trade your way.

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Flexlume is as efficient by day as by night. It is decidedly not an ordinary sign, but the result of specializing in quality electrical advertising since 1910.

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PLEASE motorists by providing them with a convenient free air service and they'll drive out of their way to your station—which means their gasoline and oil business, too.

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The UNIVERSAL Air Stand is an attractive piece of equipment for any station. It is finished in red and black enamel, is 13″ high, giving ample hose radius for any car. It has a one-piece 14″ base, the rigid upright is 2½″ pipe, the flexible piece being a 12″ oil-tempered spring, guaranteed for two years. The air hose is of best quality ¼″, fitted with Schrader chuck.

If time payment is desired, send $10.00 with order and three monthly installments of $10.00 each. Can be fitted with handy water connection for $5.00 extra.

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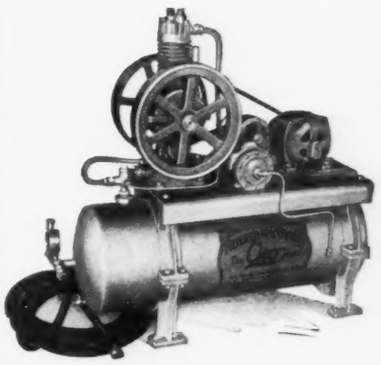

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The gear lubricant that is guaranteed to lubricate efficiently under extreme cold condition. In your next order specify Advance Cold Tested Gerene.

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year old child without a stitch of clothing on. On special occasions the child may have a bow of pink ribbon on its head or a red bonnet and red slippers on.

Referring again to the goats, I noticed that one of their greatest amusements seems to be walking on the running board of the street cars as the car waits at the end of the line.

A driller remarked to me a few minutes ago that this was a h— of a country. He said that even an oil can full of oil would rust out if it was not taken care of. I don't think that any one should kick about a country that has as good beer as they have in Maracaibo but perhaps I should not write of that. I will simply say that this is a wet country and leave the rest to your imagination. Gambling is quite prevalent here. It is usually controlled as a monopoly in each town. Maracaibo has a public crap game and a roulette wheel which is well patronized by the Americans, usually to their sorrow.

Maracaibo is no place to spend a vacation. In 24 hours one may see all there is to see, drink and gamble more than is good for the vacationist and be ready to go back to work.

The field at La Rosa looks almost exactly like the Caddo field around Mooringsport except for the cocoanut trees. The Gulf and the Lago are drilling out in the water just off the shore of Lake Maracaibo. The tank farms back from the shore are as dry, hot and dusty as any California tank farm. But for the strange trees in the yard, one would think that the Gulf camp at La Rosa was in California. The Caribbean camp has several native houses in it and so is not a typical American camp.

Plant Heads to Visit Bradford Refineries

CLEVELAND, May 11.—Refinery superintendents of companies that are members of the National Petroleum Association will hold their next refinery visit on May 27 at Bradford, Pa. Plants of the Emery Mfg., Co., Kendall Refining Co., and McKean County Refining Co. will be visited.

Chief points of interest will be the tube still for topping Pennsylvania crude at the Emery plant; the centrifuging and boiler plants at the Kendall, and gas recovery system at the McKean County plant at Farmers' Valley, 14 miles from Bradford.

These refinery visits are part of the program of the association's department of manufactures under the trusteeship of B. B. Stroud, McKean County Refining Co. The visits were started last fall when P. S Tarbox, Independent Refining Co., Oil City, was trustee in charge of the department.

The Kendall and Emery plants will be visited in the morning and the McKean County in the afternoon. Councellors of the department are planning to hold a luncheon meeting.

HERE AND THERE

A record of 21 years of continuous service as stillman without one accident at its Port Arthur refineries, has been established by P. E. Wagner of The Texas Co., according to a recent issue of "The Look Box," official house-organ of the company.

As a reward to the employe during the safety campaign at Port Arthur recently, who could claim the longest service with the company without an accident, a loving cup suitably inscribed, was offered. Many contestants submitted their claims, their records ranging from one to 19 years, but Mr. Wagner was the one who "put it over" everybody else.

Fitting ceremonies at Port Arthur were held on the day when Mr. Wagner was presented with the cup. Captain Nichoson, employment supervisor, opened the ceremonies, and V. R. Currie, general supervisor of the employment and service division, introduced A. S. Bailey, assistant superintendent, who presented the cup.

Mr. Wagner says that he attributes his success as a safe workman to one rule which he always follows, that of making an inspection before he starts his work so that everything is in safe condition for himself as well as for fellow workers.

* * *

Recent promotions and transfers of positions in the sales department of the Texas Co.'s district office includes C. E. Woodbridge, formerly sales manager for the northern territory, who was promoted to treasurer; William Dodge formerly district superintendent at Denver, Colo., who succeeded Mr. Woodbridge as sales manager of the northern territory, with offices at New York; D. C. Clark, formerly salesman at Lowell, Mass., for the company, transferred to Washington, D. C. H. B. Joseph was recently appointed assistant superintendent of the Philadelphia district, succeeding Leo Deutch, who resigned, according to Mr. Clark.

* * *

R. E. Baumann, retail station manager for Shaw Bros. Co., Miami, Fla., gasoline distributors, reports that a baseball team comprised of employes of Shaw Bros. has just entered the commercial league in Miami. The team bids fair to carry away the pennant this year, Mr. Baumann says. All employes are given a chance to try out.

* * *

A fine 11 pound baby boy was born recently to Mr. and Mrs. Robert D. Wenger, at Rittman, O. Mr. Wenger is manager of the B & W Oil Co. at Rittman.

Frank W. Clarke has resigned as secretary and treasurer of the Oil States Petroleum Co., Inc., and has gone into the oil brokerage business for himself, with offices at 29 Broadway, New York. Prior to his connection with the Oil States company, Mr. Clarke was for several years with the White Oil Corp. in the export and domestic sales department, and is well acquainted with the trade both here and abroad.

Mr. Clarke is specializing in gasoline, fuel and gas oils, and all grades of paraffin waxes.

* * *

A. M. Grier, representative for The Texas Co. at Washington, D. C., narrowly escaped injury when his apartment caught fire recently. He escaped through a window, according to D. C. Clark, salesman.

* * *

H. T. Baldwin, who has been salesman in Farmville, Va., territory of The Texas Co., has been promoted to agent at Farmville.

P. E. Wagner, still man at the Port Arthur plant of The Texas Co., who won the prize for the longest and safest record with the company

Frank Forsyth, Jr., distributor of Texaco products at Front Royal, Marshall and Woodstock, Va., and Cumberland, Md., is opening a distributing station at Purcellville, Va., to cover Loudoun county. Station will star business about May 10. Associated in this business with Mr. Forsyth are O. A. Haley of Front Royal and W. F. Steel, Purcellville, according to J. F. Forsyth, president of J. F. Forsyth & Co., this city.

* * *

Homer J. Smith, sales manager for the Waite Phillips Co., which recently purchased the Sterling refinery at Wichita which it is now operating, was in Wichita for several days recently looking over the situation. He was accompanied by Fred W. Cordell district superintendent of the Waite Phillips Company at Kansas City, Mo., and J. T. Kerin, saleman for the same company in western Kansas. Mr. Kerin will soon move his family from Salina to Wichita and make that his permanent headquarters.

* * *

H. O. Shaw, of Shaw Bros., Miami, Fla., gasoline distributors has just returned from a trip to South America and reports visiting one country there where no automobiles were allowed. This caused Mr. Shaw to abandon any plans to establish filling stations in that particular territory, reports R. E. Baumann, retail station manager.

* * *

Lee L. Cheatwood has been elected vice president and general superintendent of the Seventh Street Garage Co., Inc., Richmond, Va., recently. J. B. Blaekbum, treasurer and general manager, says that Mr. Cheatwood is an authority on how to keep down the cost of delivering gasoline from tank wagons.

* * *

Sam Long has opened a service station eight miles east of Kingman at the Shady Grove Camp Grounds. Mr. Long is now in a Wichita hospital suffering from rheumatism.

* * *

Samuel Isaacs, formerly with the Indiana Refining Co. at Detroit, Mich., is now with The Eastern Oil Corp., Salisbury, Md., as office manager.

* * *

George S. Hewitt has been promoted to manager of the James River Oil Co., Inc., Richmond, Va. C. D. Jenkins, vice president has resigned.

* * *

A. L. Terry has recently completed and opened his new drive-in service station at Wichita, Kan., handling Derby Oil Co.'s products.

Oil Trademarks For Copyright

THE following are trade-mark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address NATIONAL TRADE-MARK COMPANY, Barrister Building, Washington, D. C., trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the NATIONAL TRADE-MARK COMPANY, stating that you are a reader of this journal.

Ser. No. 208,877. (Class 15. Oils and Greases.) Skelly Oil Company, Tulsa, Okla. Filed Jan. 30, 1925.

In the accompanying drawing the color red is indicated on the perimeter strip.

Particular description of goods.—Natural Gasoline, Motor Gasoline, Kerosene, Distillate, Gas Oil, Road Oil, Fuel Oil, Engine Oil, Industrial Lubricants, Lubricating Greases, Automobile Lubricants, and Penetrating Oil.

Claims use since Dec. 31, 1923.

—o—

METRO

Ser. No. 196,749. (Class 15. Oils and Greases.) Metro Stations, Inc., Olean, N. Y. Filed May 8, 1924.

Particular description of goods.—Gasoline, Motor-Lubricating Oil, Kerosene, and Fuel Oil.

Claims use since July 1, 1920.

—o—

ACMELENE

Ser. No. 204,342. (Class 15. Oils and Greases.) The Acme Refining Co., Cleveland, Ohio. Filed Oct. 24, 1924.

Particular description of goods.—Thread-cutting Oil.

Claims use since 1918.

—o—

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Ser. No. 207,601. (Class 15. Oils and Greases.) Vesdal Creations, Inc., New York, N. Y. Filed Jan. 2, 1925.

Particular description of goods.—Fuel and Lubricating Oils and Lubricating Greases.

Claims use since Dec. 5, 1924.

—o—

(IL)INE

Ser. No. 209,598. (Class 15. Oils and Greases.) The Tiona Oil Company of Maryland, Inc., Baltimore, Md. Filed Feb. 14, 1925.

Particular description of goods.—Lubricating Oils and Greases.

Claims use since 1917.

Ser. No. 202,859. (Class 15. Oils and Greases.) Derby Oil Company, Wichita, Kan. Filed Sept. 22, 1924.

The lining expresses the color red. No claim is made to the words "To, Service, Gasoline, Motor Oils, & Greases" apart from the mark shown.

Particular description of goods.—Gasoline, Kerosene, and Lubricating Oils.

Claims use since July 1, 1922.

—o—

"VAL-PENN"

Ser. No. 204,583. (Class 15. Oils and Greases.) William A. Carran, doing business as Valley Oil Company, Cleveland, Ohio. Filed Oct. 30, 1924.

Particular description of goods. — Automobile Oil, Tractor Oil, Truck Oil.

Claims use since Sept. 26, 1924.

—o—

MONOLITH

Ser. No. 205,237. (Class 15. Oils and Greases.) Standard Oil Company, Whiting, Ind., and Chicago, Ill. Filed Nov. 13, 1924.

Particular description of goods.—Candles.

Claims use since Oct. 15, 1924.

—o—

STICKTITE

Ser. No. 209,394. (Class 15. Oils and Greases.) Galena Manufacturing Company, Galena, Ill. Filed Feb. 11, 1925.

Particular description of goods.—Axle, Gear, and Cable Grease.

Claims use since July 11, 1923.

"OLD FAITHFUL"

Ser. No. 204,490. (Class 15. Oils and Greases.) The American Crayon Company, Sandusky, Ohio. Filed Oct. 28, 1924.

Particular description of goods.—Candles.

Claims use since 1914.

—o—

TRI-AMBLE

Ser. No. 200,689. (Class 15. Oils and Greases.) Pollard Oil Company, Inc., Sioux City, Iowa. Filed July 29, 1924.

Particular description of goods.—Fuel Oils, Lubricating Oils and Greases.

Claims use since Apr. 15, 1924.

—o—

KARGO

Ser. No. 203,682. (Class 6. Chemicals, Medicines, and Pharmaceutical Preparations.) Kargo Manufacturing Co., Los Angeles, Calif. Filed Oct. 10, 1924.

Particular description of goods.—Motor-Fuel Ingredient.

Claims use since January, 1916.

—o—

H. L. S.

Ser. No. 176,463. (Class 23. Cutlery, Machinery, and Tools, and Parts Thereof.) Edwin Horace Haney, doing business as California Lubricating Co., Inc., Phoenix, Ariz., assignor to California Lubricating Co., Madera, Cal. Filed Feb. 23, 1923.

Particular description of goods.—Lubricating Systems for Automobiles and Autotrucks.

Claims use since Sept. 1, 1922.

BENZOLA-GAS

Ser. No. 201,174. (Class 6. Chemicals, Medicines, and Pharmaceutical Preparations.) Benzola Gas Company, Dallas, Texas. Filed Aug. 9, 1924.

No claim is made to the word "Gas" apart from the mark shown in the drawings.

Particular description of goods.—Liquid to be Added to Gasoline to Increase Its Power.

Claims use since Mar. 24, 1924.

—o—

LUZ SUPERIOR

Ser. No. 210,205. (Class 15. Oils and Greases.) West India Oil Co., Bayonne, N. J. Filed Feb. 26, 1925.

Particular description of goods.—Petroleum with or without Admixtures of Other Oils for Illuminating, Heating, Burning, Power, and Lubricating Purposes.

Claims use since Aug. 24, 1905.

—o—

BEAR POWER

Ser. No. 201,580. (Class 15. Oils and Greases.) The Queen City Petroleum Products Company, Cincinnati, O. Filed Aug. 18, 1924.

Particular description of goods.—Gasoline.

Claims use since Aug. 1, 1921.

—o—

4D-OIL

Ser. No. 205,776. (Class 15. Oils and Greases.) Pierce Petroleum Corporation, Wilmington, Del., and St. Louis, Mo. Filed Nov. 24, 1924.

No claim is made herein to the word "Oil" except in connection with the mark as shown.

Particular description of goods. — Lubricating Oils, Particularly Petroleum-Product Oils.

Claims use since Nov. 3, 1924.

Red River Area East of Wichita Falls Holds Oil Possibilities

By Paul Wagner

N. P. N. STAFF WRITER

Article 10 in a Series on Texas

A COMBINATION sought for in prospective oil and gas includes the association of thick sands with a predominance of shale and a few beds of black shale or black limestone such as may be found in the tier of Red River counties east of the developed Wichita Falls district.

Beds of the Carboniferous and Cretaceous series in the region overlie earlier sedimentaries capable of yielding petroleum or, at least, providing a source from which it may migrate to the higher stratigraphic levels under conditions structurally favorable.

Besides having source rocks and reservoir spaces, the region is known to have undergone sufficient pressure to induce the metamorphism necessary to separate the hydrocarbons making up oil and gas. Sufficient capping to retain the deposits in reservoirs is also known to exist.

These requirements being known to be present, it may be safely inferred that future explanatory work will result in the "discovery" of additional oil fields in the eastern part of the broadly termed Wichita Falls district, and in adjoining counties.

In their order, from west to east, the Red River counties specifically discussed in this article are Clay, Montague, Cooke and Grayson. To the westward are located Wichita and Wilbarger, which were previously discussed in connection with a survey of the southwesterly trending chain of pools found at the Cisco sand level in Archer county.

Except as developments in the latterly mentioned counties have bearing upon the eastern area under discussion they will be given no consideration in the present article. Although productive of small quantities of oil since 1904, when the first 75 wells were drilled to average depth of 300 feet at Petrolia, Clay county will be included in the survey.

* * * * * * *

FOR purposes of practical consideration, Clay county has still to develop oil production of far-reaching importance. Besides a few wells at 1,120 and 1,330 feet, the only oil to come from Clay county has been either from the Petrolia field or from a lone "wildcat" well of the Gulf Production Co., on the Worsham ranch, which latter is producing from a lime horizon found at 3392-3449 feet.

The total production of Clay county in 1923 was 141,732 barrels, of which the Gulf's Worsham well gave up 40,000 barrels. At the end of 1924, Clay county was producing 370 barrels daily from approximately 275 shallow wells and the Worsham well.

Showing In Cooke County

About 60 miles east of the Worsham well, a test of the Big Indian Oil & Development Co., in Northeastern Cooke county, has a show of oil at approximately the 3,400-foot level; and roughly 40 miles southwest of the Worsham, on the northeastern border of the developed part of the General Ranger district, the Roxana Petroleum Corp. still is getting 33 barrels daily from its No. 1 Williams well, near the southwest corner of Jack county.

The Williams well averaged 78 barrels production in 1923 and gave up a total yield in that year of 28,140 barrels from a limestone horizon. Jack county is south of Clay and southeast of Archer. In a development sense it is generally classified as more properly allocable to the General Ranger district than it is to the Greater Wichita Falls sand territory. The picking-up of a limestone pay horizon in Clay county, however, makes it important as a base from which to study conditions.

The Petrolia shallow sands, which have been more important for gas than they have for oil, are identified as belonging to the Upper Pennsylvania classification. They are generally correlated with the Cisco beds of Wichita, Wilbarger and Archer counties. A similar statement may be made with regard to the sands in which both oil and gas are found in the northern part of Montague county, near the town of Nocona.

In the Nocona area, there are at present a half dozen shallow sand oil wells capable of producing about 75 barrels daily, per well, from an upper pay at 900 feet and a lower horizon at 1,400 feet. Large quantities of gas are found just above the first oil producing sand.

The Nocona Oil & Gas Co. started a deep test in Montague county in 1919, getting a considerable showing of oil at about 2,300 feet. A gas showing had been found a few feet above this oil. Encouragement was given exploratory work in the county by this showing, notwithstanding that a large quantity of water at the oil level resulted in the test proving a failure. The test was finally abandoned at total depth of 2552 feet.

In 1922, The Texas Co. took up a large block of acreage and began a test on the Lemmon farm. It had a flow of 90 million cubic feet of gas at 735-824 feet, which was passed up for deeper drilling with oil production as the objective. No further results were obtained in carrying the test to total of 2,950 feet after which the well was plugged back to the gas sand.

The Worsham well of the Gulf, in Clay county, had been completed in the meantime, on February 22, 1923, for initial production of 187 barrels. Afterward the Gulf drilled a dry hole to 3,385 feet at a point approximately one mile northeast of the Worsham well; and another to about the same level in a southwesterly direction from the "discovery." Hapgood and others drilled a dry hole three miles north and west to total depth of 3,900 feet.

Saner, Saner & Lomax found in June, 1923, what is known as the Knox-Finley pool, Clay county, where a few wells average about 15 barrels, initial, production, from a sand at 1,120 feet; and the Ashland Oil Co's. No. 1 on the Joce ranch had initial production of 60 barrels at 1,332-1,336 feet.

Developments did not extend beyond the completion of a few wells at these levels, but considered in connection with oil in the Nocona gas area of Montague county they are sufficient to prove the presence in the eastern part of the Wichita Falls district of the sand lenses common to Wichita and Archer counties; and at similar drilling depths.

Big Indian Testing Still

The first show of oil obtained in the Cooke county test of the Big Indian Oil & Development Co., was found on Easter Sunday, 1924, at a depth of about 3,400 feet. The test, which is still in an uncompleted stage, is located in sec. 9, Fannin county school lands, about 11 miles from Gainesville.

After getting its show, the Big Indian attempted to shut off water with a string of 6-inch, which froze. Attempt was then made to pull 6-inch and underream, but because of the caving condition of the hole this had to be abandoned. The drillers attempted to ce-

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ment pipe, which delayed completion; and still later water broke in again. Casing parted when attempt was made to lower it for the purpose of cutting off water.

Oil with Fluid in Hole

When a depth of 3,519 feet was reached, the crew ran a string of 5-inch, with 4½-inch Guiberson packer; 20 feet on second joint off bottom and eight feet of perforation on bottom. The well stood about 3,000 feet of fluid in the hole, 40 to 50 per cent of mud and b. s., mixed with oil.

It appeared that water and mud had broken in behind the 5-inch and the problem of finishing the well seemed to be to pull the 5-inch and attempt to cement casing. This in itself consitutes a problem with oil standing in the hole.

Before the mud broke in, bailing every 15 or 20 minutes failed to lower the fluid in the hole. Bailing was kept up for an entire day. A test of the oil showed it to be of high gravity, but no true measure of its characteristics could be obtained under the circumstances.

Acreage controlled by the Big Indian interests is scattered over an area about three miles wide and five miles long, north to south, but is by no means solid. In all, these interests control about 3,330 acres. Others buying leaseholds in the vicinity of the well were the Skelly Oil Co., the J. K. Hughes Developing Co., the Westheimer interests of Ardmore, Ramsey Oil Co., Simms Oil Co., Healdton Oil & Gas Co., and the Magnolia Petroleum Co., among others.

The Big Indian well is in an area of southeasterly dips of Cretaceous and more recent beds, at a point west-southwest of the Preston anticline, which is mapped as crossing Red River from Grayson county, Texas, into Marshall county, Oklahoma.

Virtually all of Cooke and Grayson counties are surfaced by Cretaceous beds, which overlie Paleozoic rocks. This surfacing contrasts with Carboniferous deposits exposed in the more westerly counties discussed.

Major Uplift An Influence

Across the Red River boundary between Texas and Oklahoma the axis of a major uplift swings through the Arbuckle and Wichita mountains at an angle of approximately 20 degrees north of west. That influence on the north and the Llano-Burnett uplift, in Central Texas, probably have combined to affect conditions of petroleum accumulations throughout the region north from the General Ranger Territory to the oil fields in southern Oklahoma.

Perhaps the Arbuckle and Wichita uplifts, or uplift, had the greatest effect as far south as northern Young county, Texas; most certainly with regard to petroleum found at sand levels. With regard to deep limestone horizons a great deal of disagreement would be found as regards the northerly extent of influence of the Llano-Burnett uplift. That, however, is immaterial in the present discussion.

The fields in the developed Wichita Falls district are generally considered to be located on what has been described as the Red River uplift. Its south flank is placed a little south of the center of Wichita county, trending southeasterly through the northen parts of Clay and Montague counties, into Cooke. Its north flank is outlined at a point north of Randlett, in Cotton county, Okla., trending a little south of east through the town of Waurika, Jefferson county, and thence southeasterly into Cooke county, Texas.

On either side of this arch-like fold, or geanticline, which has been indicated by drilling to the older buried rocks, broad shallow basins, or geo-synclines, are mapped. Most of the oil and gas of the world occur in such general basins. The geo-syncline between the Arbuckle-Wichita uplift on the north and the Red River uplift has about the same trend as the structural features mentioned, both swinging north of west very similarly. On the south side of the Red River uplift is another general basin of the geosynclinal type.

Peculiarity of Healdton District

No effort is made by the writer to explain the significance, if any, of a peculiarity of development in southern Oklahoma which bears upon parts of the area discussed. In order to properly study this peculiarity it is desirable to have at hand a map showing the oil fields of the Healdton, Okla., district, and the counties on both the Texas and Oklahoma sides of the Red River.

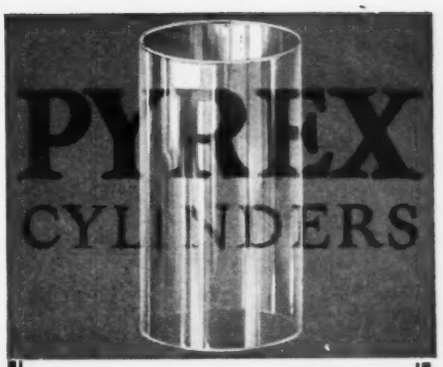
Such a map should also show the Criner hills, which are located immediately southwest of the Arbuckle mountains, in Carter county, Okla. The Criner hills are cut by the Arbuckle fault, which limits them to the west.

A straight line should be drawn along the course of the Arbuckle fault in a northwesterly direction to a point adjacent on the east to the Robberson oil field in Garvin county, Okla.; and this line should be extended southeasterly at the same angle to a point east of Marietta, Love county, where a fault is observable in the river bottoms on the Oklahoma side. The point east of Marietta is possible to identify because of a horseshoe bend in the Red River.

This line having been drawn, others should be projected away from it at angles of 60 degrees through the oil fields of the Ardmore district. Along the southernmost of several lines will be found in their order the Crinerville pool of the Amerada Petroleum Corp., the Hewitt, Healdton, Loco, Comanche and South Duncan developments.

A second line north of the first will cut the Fox-Graham development, the Velma pool, the North Duncan and the Lawton shallow fields. The Hope gas field, in 1N-6W, and the Cement oil pool in 5N-9W, are far enough removed from other development to require fresh "discoveries" before mapping them on similar parallel lines.

The carrying of the experiment further would show that the distance



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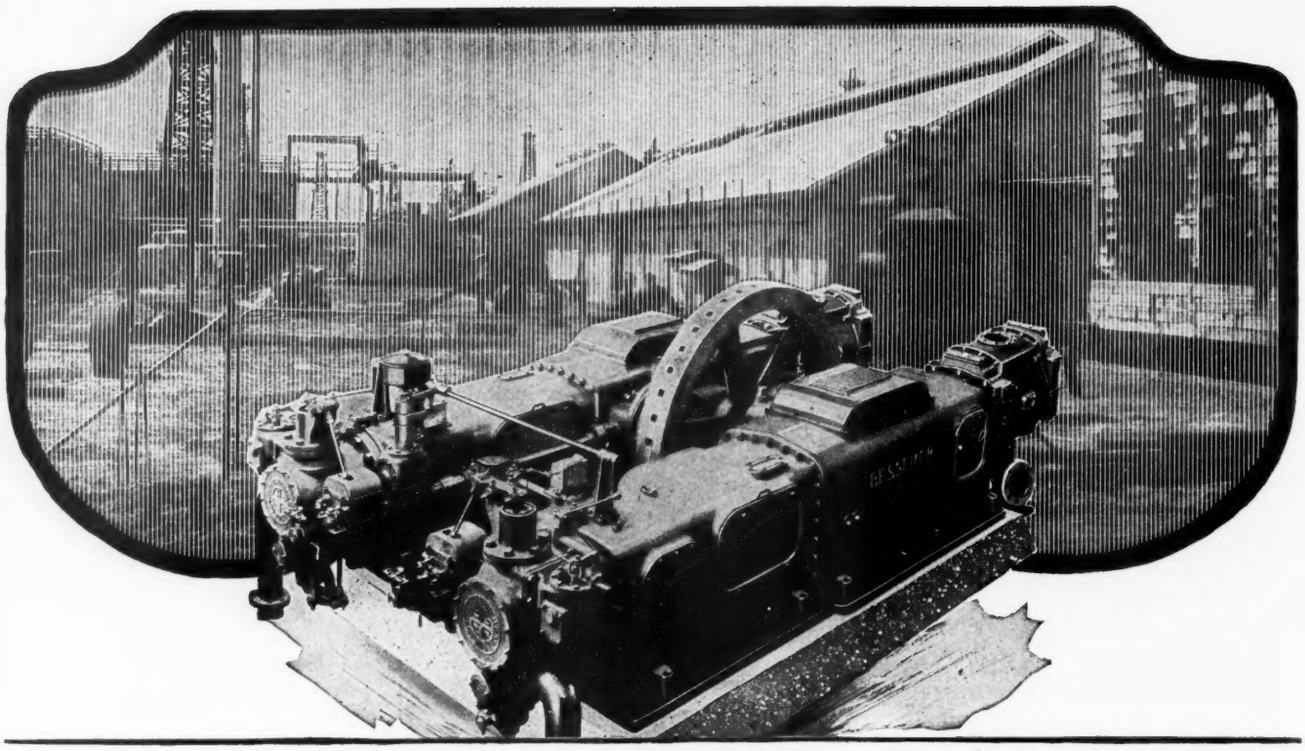

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from one pool to another along these lines, is either six miles or it is expressed in multiples of six; and a similar statement as to distance apart applies.

Very nominal production in the Hambro pool, in 33-5S-6W, Jefferson county, Okla., would approximately line up with the northern Cooke county showing, on the Texas side; but there is no carrying the comparison across the river into Oklahoma from development in either Clay or Wichita counties, Texas, along lines drawn at similar angles.

The faulting used as a base line for this experiment is not known to cross into Texas from the point where last observed in the Red River bottoms, but the conditions herein mentioned are stated, nevertheless, for the purpose of possibly developing research. No claim to knowledge of dyamics is made by the writer and the peculiarities herein mentioned may be merely coincidences; however, structural peculiarities in possible oil country, whether at the surface or below it, generally have important bearing upon results to be obtained in exploratory work; that is, provided it is possible to translate their meaning and thereby benefit from the often obscure evidence.

Exploration of Oil Without Exploitation Requisite for Sound Basis

By F. Julius Fohs,
Vice-President, Humphreys-Boyd Oil Co.

NO sound economic program can be developed for the producing industry without a more adequate knowledge of its reserves, potential and actual. To determine potential reserves, better estimates are necessary, satisfactory both to the government and the industry. But to determine actual reserves in untested structures, there is no adequate method now in use, hence I have proposed "Exploration Without Exploitation." All other industries have their reserves outlined and the petroleum industry must do likewise.

Both government and private operators are necessarily in the dark as to the actual reserves until explored by drilling, as with best geologic methods the ratio of producing and dry areas remains one in four. The failure of Teapot Dome to develop into a major pool is an excellent example of the impossibility of estimating undrilled resources.

To overcome this, both government and private operators should arrange to explore by core-drilling their prospective areas, but not exploit them until and as needed. This will necessitate not drilling-in wells but coring the oil sands in a number of wells in each new pool, by means of the ordinary basket core barrels and improved core barrels, as of the Elliott type, for rotary tools, and by diamond drill cores for standard-tool holes. In the use of diamond drill outfits, a sufficiently heavy outfit must be provided which is capable of using a fish tail bit for those portions of the strata requiring no precise record. In order to successfully mud off sands, a heavier pump than is ordinarily provided with diamond drills must be available to avoid bringing in the well. By cementing or mudding the sands immediately the core is removed, no damage will be done to the pool. The same holes may later be used by drilling out the cement, if larger bit is used than core-barrel.

The application of these methods is especially desirable since it is now generally agreed that it is impractical to develop a new pool piece-meal if full advantage is to be obtained from the natural gas and natural gas-expansion in the oil, which constitute the cheapest method now known of flowing oil from wells. It will have the added advantage of not only determining the extent and value of the deposit, but also of serving as a basis for determining the most economic method of development.

Difficulties of Core Estimates.

I am not unaware of difficulties of core-hole estimates of production, due to:

MR. FOHS herewith discusses one point raised by the Federal Conservation Board, which has inquired at some length into the possibilities of mapping oil reserves in advance of development.

Mr. Fohs, a geologist, is vice-president of the Humphreys-Boyd Oil Co., and has had the field management contract with the development of such fields as Mexia, Powell, and Wortham.—Editor.

(a) Inability to estimate production based on porosity and saturation of recovered core;

(b) Loss in evaporation, partly to be overcome by paraffining the core immediately recovered;

(c) Loss due to contact of drilling fluid;

(d) Irregularity of local sand conditions;

(e) Difficulty of estimating gas content so helpful in gusher production;

(f) Loss in determining saturation by volatilization on distilling;

(g) Difficulty of determining precise gravity of contained crude.

Nevertheless, the intelligent placing of three to four such holes would determine the value of a field sufficiently to permit its rapid exploitation, as and when needed.

Offsets to "Frozen" Investments

The investments "frozen" or tied up in leases that are core-drill-tested would be offset by:

(a) Less necessity of carrying rentals on large blocks of checker-boarded leases;

(b) A smaller above-ground steel tankage crude reserve, and hence lower "frozen" investment and carrying charges in such account.

(c) Decreased losses from storage evaporation;

(d) More efficient development, the drilling of less dry holes and avoiding the drilling of more wells than necessary;

(e) Advance provision for storage, pipe lines and supplies only in accord with needs of pool, instead of much in excess as in the recent Wortham development.

Most of all it would be a great stabilizing factor in the economics of the industry, and would avoid the large speculation and losses in shares purchased on the assumption of large reserves of certain oil companies which, upon drilling, are frequently found not to exist.

It may be asked how such methods may be employed where ownership of a locality is divided. Either by co-operation of the owners or else any owner of material holdings may do so on his own account in hopes of adding thereto by purchase.

Operations for Government

These could be undertaken by private corporations, provided:

1. Lease units were sufficiently large;
2. That bonuses under such conditions would be eliminated;
3. That royalties would be scaled down comparable to those obtainable from non-governmental sources.

These considerations would offset the investment of capital over the long period which the government might require that no exploitation be undertaken.

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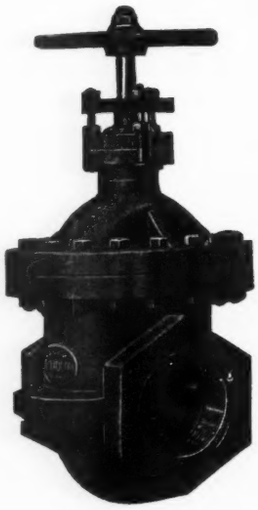

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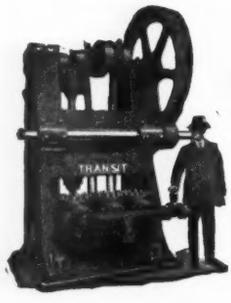

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By A. F. Hinton
N. P. N. STAFF WRITER

TULSA, May 8

ONE of the most important phases of reclamation of used oil field material is the handling of casing through the company shop and warehouse. Through careful and intelligent methods, it is possible to put second-hand pipe back in first-class shape for further use in drilling, or to segregate it so as to prevent such use if its condition is such that it would be dangerous to run it again. These features are perhaps equally important. The former saves the cost of new pipe, while the latter lessens the danger of expense and delay incident to the use of defective casing in drilling.

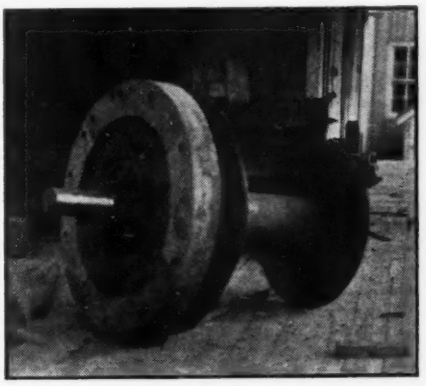
In the preceding article on salvage methods used at the shop of the Barnsdall Oil Co. at Barnsdall, Okla., some of the uses being made of old worn out casing were brought out, but no details were given of the manner in which the casing is handled and segregated.

All old or used casing removed from Barnsdall wells eventually finds its way to the central shop, where it is inspected, tested and rethreaded if fit to be used again in a well, and is then placed in warehouse stock to be used as needed. If it is not suitable for further drilling, it is placed in the shop stock for other uses.

If a joint of casing is found to be crooked or is dented, it is not used again in a well, although some companies have installed machinery for straightening pipe found to be otherwise undamaged. The Barnsdall Co. has not found enough crooked joints to warrant the installation of straightening machinery. If the joint of pipe is found to be straight and true as to dimensions, it is rethreaded, cleaned up, weighed, fitted with collar and thread protector, marked, and placed in stock.

The company has in the shop a master gauge to insure accuracy of threading. New collars, which are placed on the salvaged pipe, are tested against the gauge and then used to test threads on the pipe. A collar found to be perfect is used in testing threads on a number of joints, usually about 25, after which it is sent out with one of the joints and a new collar is used. This minimizes the chance of the collar becoming worn and inaccurate. This method serves not only to insure accurate threading of the casing, but also amounts to an inspection of the collars, with one out of every 25 being tested with the master gauge.

After having been re-threaded, the joint of pipe is measured and weighed, and its diameter, length and weight per foot is painted on in white. Before being transferred to warehouse stock it is cleaned up, the threads are covered with No-Oxid, and the dimensions and weight are stamped on with a steel die. This mark is always placed one foot below the collar so that it can be found easily, and is readily discernible through the use of a wire brush even on old and dirty casing just out of a well.



Old sand reel rebuilt into serviceable pulling machine drum, at shop of Barnsdall Oil Co., Barnsdall, Okla.

Accurate identification of casing as to inside diameter, which determines its weight per foot, is a difficult matter, and is the source of many costly mistakes in getting joints of different weights in the same string. The Barnsdall Co. has an accurate and time-saving method of determining this weight, and one which does away with the use of calipers to find the inside diameter of the pipe in order to find its weight. When the casing has been threaded, it is measured as to length and outside diameter, It is then picked up with a chain hoist to be placed on the rack, and is weighed in the same operation, a scale being hung under the hoist.

Having the diameter, length and weight of the joint, it would be necessary to divide the total weight by the length to determine the weight per foot, which would be a slow process. The company, however, has devised an interesting chart for 6⅝, 8¼, and 10-inch casing, from which the weight per foot can be determined almost instantly after the joint has been weighed and measured. Taking the 6⅝-inch chart as an example weights of joints varying in length from four feet to 23 feet 10 inches are given for 17, 20 and 24 pounds per foot, the lengths being figured down to two inches. Thus, if a joint of 6⅝-inch casing 18 feet two inches long is found to weigh 363 pounds, or within a pound or two either way of that figure, the chart shows that it is 20-pound casing. A joint of 17-pound casing of the same length would weigh 309 pounds, while 24-inch would weigh 436 pounds.

The man checking the pipe carries the charts in a handy case for ready reference, so that as soon as a joint is weighed he can tell at once its weight per foot and can mark it accordingly. The pipe is thus moved from the threading shop, measured, weighed, identified infallibly as to weight per foot, marked, and stacked in its proper place in practically one operation.

Another Check on Pipe

The Barnsdall Co. is equally careful with its casing when actually in use in the field, and as a result has reduced its bad-pipe troubles to a minimum. The company has a clause in all its drilling contracts which forbids the contractor to run any pipe in the hole unless a Barnsdall representative is present. In drilling with company tools the driller is under the same inhibition, and does not run

6⅝" Casing Table

	17 #	20 #	24 #		17 #	20 #	24 #		17 #	20 #	24 #		17 #	20 #	24 #		17 #	20 #	24 #
4′	68	80	96	8′	136	160	192	12′	204	240	288	16′	272	320	384	20′	340	400	480
2	71	83	100	2	139	163	196	2	207	243	292	2	275	323	388	2	343	403	484
4	74	87	104	4	142	167	200	4	210	246	296	4	278	326	392	4	346	407	488
6	76	90	108	6	144	170	204	6	212	250	300	6	280	330	396	6	348	410	492
8	79	93	112	8	147	173	208	8	215	253	304	8	283	333	400	8	351	413	496
10	82	97	116	10	150	177	212	10	218	256	308	10	286	336	402	10	354	417	500
5′	85	100	120	9′	153	180	216	13′	221	260	312	17′	289	340	408	21′	357	420	504
2	88	103	124	2	156	183	220	2	224	263	316	2	292	343	412	2	360	423	508
4	91	107	128	4	159	187	224	4	227	266	320	4	295	346	416	4	363	427	512
6	93	110	132	6	161	190	228	6	229	270	324	6	297	350	420	6	365	430	516
8	96	113	136	8	164	193	232	8	232	273	328	8	300	353	424	8	368	433	520
10	99	117	140	10	167	197	236	10	235	276	332	10	303	356	428	10	371	437	524
6′	102	120	144	10′	170	200	240	14′	238	280	336	18′	306	360	432	22′	374	440	528
2	105	123	148	2	173	203	244	2	241	283	340	2	309	363	436	2	377	443	532
4	108	127	152	4	176	207	248	4	244	286	344	4	312	366	440	4	380	447	536
6	110	130	156	6	178	210	252	6	246	290	348	6	314	370	444	6	382	450	540
8	113	133	160	8	181	213	256	8	249	293	352	8	317	373	448	8	385	453	544
10	116	137	164	10	184	217	260	10	252	296	356	10	320	376	452	10	388	457	548
7′	119	140	168	11′	187	220	264	15′	255	300	360	19′	323	380	456	23′	391	460	552
2	122	143	172	2	190	223	268	2	258	303	364	2	326	383	460	2	394	463	556
4	125	147	176	4	193	226	272	4	261	306	368	4	329	386	464	4	397	467	560
6	127	150	180	6	195	230	276	6	263	310	372	6	331	390	468	6	399	470	564
8	130	153	184	8	198	233	280	8	266	313	376	8	334	393	472	8	402	473	568
10	133	157	188	10	201	236	284	10	269	316	380	10	337	396	476	10	405	477	572

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HOUSTON, TEXAS

pipe unless an authorized inspector is present. Each joint of pipe is inspected by the company representative before being run in the well, whether the pipe is new or second-hand. He carries a template made from the master gauge, and is able closely to inspect threads. He will not allow a joint that appears defective in any way to be run. In this way, if a bad joint should happen to get by the shop foreman, it would very likely be caught by the field inspector before being used.

The company has developed a practise in the handling of casing and tubing that is believed to be unique. This is the marking with a serial number of every joint of pipe or tubing run in the hole. Each joint is stamped with a steel die about two inches below the collar, the first joint being marked "1" the second 2, and so on. In tallying the pipe as it is run in, this number is recorded as well as the length. Thus, in case of a fishing job, parted casing or tubing, or other trouble, it can be told exactly how

W. F. Molyneux, for 25 years ith the Cornplanter Refining Co., who has gone into business for himself at Philadelphia, Pa.

many joints are in the hole, just where the break occurred, etc. This saves a great deal of trouble and doubt, especially with tubing, where it is often difficult to determine these things accurately.

In removing pipe from the well, if it is to run back, it is stacked in such a manner that each joint lies in its proper numerical order, so that there is no searching around for the right joint, and the pipe goes back in the hole in just the order in which it came out. No trouble has been experienced in finding the numbers. They usually will show up when wiped with a piece of waste, and always do so when a wire brush is used. In case of abandonment, or removal of pipe for any reason, when it is not to be used in that well again, the numbers are marked out with a steel "x" die, to be re-numbered when used in the next well. In addition to its other advantages, this method also tells exactly how many times a joint of pipe has been used in a well. If two "x" marks show up, the casing or tubing has been used twice before, and so on.

Another interesting example of salvaging old material at the Barnsdall shop is that of re-making old sand reels into pulling machine drums, one of which is shown in a picture accompanying this article. The company had a number of old sand reels on hand, which were not usable on account of being too small for present-day drilling, or on account of worn-out shafts, etc. The flanges and shafts of these old reels were used with a specially-made wooden pulley wheel and are used for pulling rods and tubing on standard rigs. By using them, the company can remove the bull wheels from the rig for use elsewhere. The pulling machine drum remains in place permanently. The only change necessary in the derrick is that the bullwheel posts must be moved somewhat closer together to fit the pulling drum.

In the background of the picture showing the pulling machine drum, there may be seen an assembly of old material made over into a serviceable portable pump outfit which often comes in handy for a variety of uses. This outfit consists of an old automobile engine and transmission, connected by a F. W. D. transmission chain to a 3 by 4 Gould triplex pump, all mounted on a frame made from an old auto frame. The outfit is easily loaded on a truck and is thus readily available when a pump is needed temporarily. It has given good service in pumping water to a drilling well, for instance, and needs but little attention, as it will run as long as the gasoline holds out.

As we said at the beginning of this series, great things can be done when ingenuity and initiative team up with a good welding outfit.

PHILADELPHIA, PA., May 2.—After 25 years of service with the Cornplanter Refining Co. and recently in the Cornplanter refining division of the Pure Oil Co. since the latter's purchase of this refinery in Philadelphia, W. F. Molyneux, well known to the jobbing trade throughout the East, has severed his connection with the Pure Oil Co. to go into business for himself. He is now conducting his business under the name of W. F. Molyneux Co. at 1030 Germantown Ave., Philadelphia, and has refinery connections at Warren, Pa. and Tulsa, Okla.

NEWARK, N. J.—On the opening day of the new Co-Service Oil Co.'s service station at East Orange, N. J., every purchaser of five or more gallons of Co-Service gasoline was given four coupons good for four quarts of Stag motor oil, redeemable at any of the company's 14 service stations within 90 days.

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REFINERY-TANK WAGON MARKETS

S. O. New Jersey Purchase Boosts Group 3 Gasoline Prices

Staff Special
TULSA, May 9

AFTER being comparatively quiet in the latter part of April when prices and new business slumped considerably, the gasoline market, which had already begun to move upward under its own force was given a boost this week when the Carter Oil Co. bought heavily of U. S. Motor Gasoline for export shipment by the Standard Oil Co. of Louisiana, Standard Oil Co. of New Jersey subsidiary.

Hectic buying by marketers in order to cash in on the swift advance in prices, and increasing interest among jobbers in gasoline for future delivery and a revival of the optimism which swept the Mid-Continent in the middle of April when the same company distributed orders for some 14,500,000 gallons of the same grade of gasoline, were additional accompaniments of the Carter's action.

High gravity gasolines have shared in the advances of heavier grades, and natural gasoline, the supply of which has fallen below demand of the past few weeks, was finding a waiting market. Kerosene has shown some improvement with the soft spots eliminated, but the heavier oils have been weak and quiet. Among the lubricating oils, neutrals were in fair demand, but trading in cylinder stocks continued below refiner's expectations. Wax remained strong.

Carter Raises Price

The Carter Oil Co. entered the market offering 10½ cents for U. S. Motor at a time when deliveries on its former heavy purchases were not yet completed. Coming when the market had already shown signs of recovery from recent slow trading, refiners did not freely accept the offers of this company, and its price was later raised to 10¾ cents. Total purchases were approximately 500 cars, with shipping instructions, as in its former order, calling for delivery at the Gulf within 30 days.

There is no doubt but that the Carter would have taken more gasoline had refiners been willing to accept the price offered, although its April orders were filled at approximately 9¾ cents Comment among refiners and others interested in the markets was to the effect that the Standard was in the market this week because it wanted gasoline and not because of the stabilizing effect their buying would impart to tank wagon prices as was generally believed to have been the case last month.

Taking of this amount of material from the market caused U. S. Motor prices generally to advance from ½ to ¾ cent per gallon, and refiners were holding this grade firmly at 11 cents Saturday with odd cars moving to the jobber at 11¼ cents. Just before the Carter's purchases in April this grade was held at from 9½ to 10 cents, and prices swiftly advanced to 10½ and 10¾ cents.

Carload marketers bought gasoline at 10½ to 10¾ cents after the Carter's purchase and resold most of this material to jobbers at 11 cents for prompt shipment. These marketers predicted an 11¼-cent market next week. Jobbers themselves were not buying actively.

Light Gasoline Stronger

The high gravity gasolines, stocks of which have not been generally burdensome, were also strengthened and exporters were more interested, particularly in the 64-66, 375 end point grade. One exporter was actively seeking this material and paying from 13⅛ to 13¼ cents late this week, and refiners were demanding 13½ cents for additional material. Another was offering 13¼ cents without success Friday and Saturday.

The 60-62, 400 end point was held at from 12¼ to 12½ cents with some refiners demanding 12¾ cents. Little of the 68-70 gravity goods is being manufactured but one refiner quoted 13¾ cents per gallon.

A review of the position of the 118 refiners that report operation statistics to National Petroleum News each week shows that in the four weeks ended May 1, gasoline shipments from these plants exceeded production, and stocks declined 5,283,904 gallons. During the week ended May 1, gasoline stocks declined 1,574,609 gallons to 78,057,694 gallons, having been reduced in each of the five reporting states. At the rate of shipment during that week these stocks represented only 19 days' supply.

Kerosene stocks in the four weeks declined 1,192,339 gallons and also represented 19 days' supply at the rate of shipment for the week. Increased runs to stills and slow buying caused stocks of gas and fuel oil to increase rather heavily. Production in the four weeks exceeded shipments by approximately ten per cent. Stocks were roundly 16,000,000 gallons greater and represented 29 days' supply at that week's rate of shipment.

Natural Gasoline Booming

Natural gasoline has found plenty of support in a runaway market and prices have advanced swiftly with buyers having difficulty in filling their requirements. Steady movement of high gravity gasolines on standing contracts between refiners and the Standard Oil Co. of New Jersey, as well as other purchases by exporters, have called for a large volume of natural gasoline, and stocks have apparently been heavily reduced.

This week, in particular, finding material has been more of a problem than price, and many manufacturers were not only well sold ahead, but were buying all the loose naturals available. Grade A which was bringing around 10¼ cents Monday, was moving at 11 cents Saturday. Grades B and C advanced to 10¾ cents, or practically 1 cent higher than Monday's figures.

Kerosene has shown some improvement, and marketers who had found some 41-43 water white in Oklahoma at 4 cents in the last few weeks, found it more profitable to buy at 3⅞ cents in north Texas this week for northern shipments. Jobbers were paying 4¼

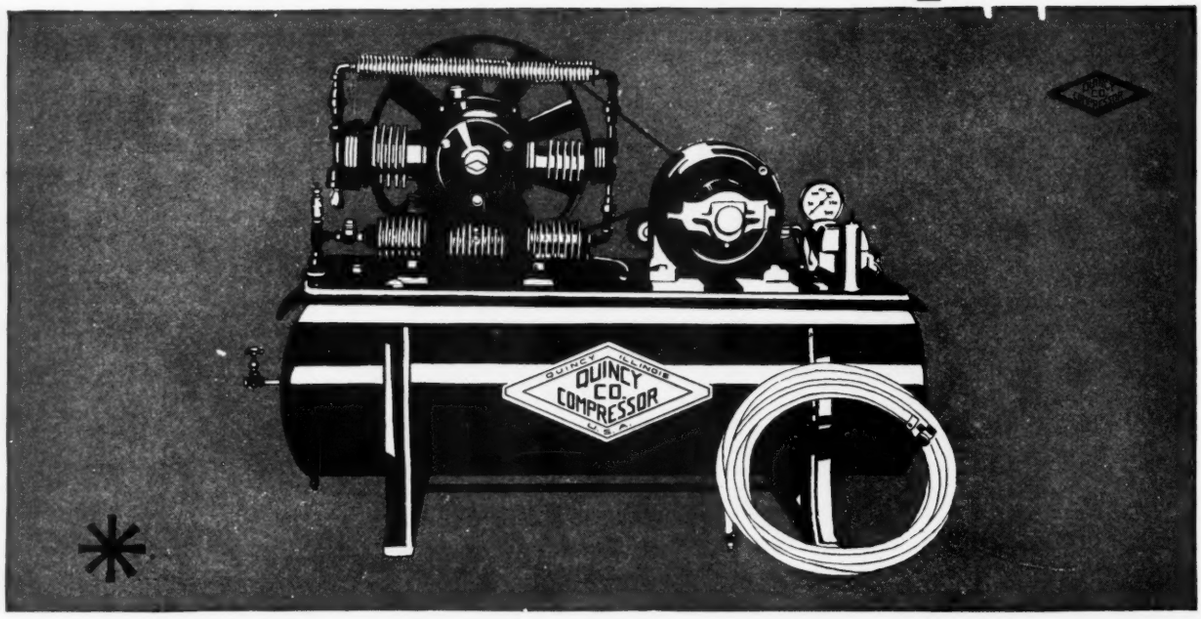
(Continued on page 213)

All prices and market information printed herein have been gathered by the staff of National Petroleum News from reliable sources and so far as can be ascertained thoroughly represent the going market as defined for each product on the date given for those particular prices. Both buyers and sellers have been checked in the gathering of this information and actual sales studied.

These prices and this information are subject at all times to correction for errors. Anyone having knowledge of any facts which would indicate anything different from the information which is given, is especially urged to send in those facts to the head office of National Petroleum News at once, or take them up with the nearest representative. All such facts will be promptly and thoroughly investigated.

The staff of National Petroleum News is cognizant of the fact that this market information has come to have a high standing in the industry. It wants to not only maintain that standing, but to improve it and to that end, invites the co-operation of the entire oil industry.

Never mind the price



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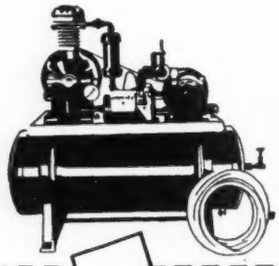

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Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices May 11	Prices May 4	Prices Apr. 27
52-54 Naphtha	12½-12¾	12½-12¾	12½-12¾
54-56 Naphtha	12¾-13	12¾-13	-13
58-60 Gasoline	-13¼	13 -13¼	13 -13¼
60-62 Straight-run gasoline	14 -14¼	13¾-14¼	13¾-14¼
62-64 Straight-run gasoline	14¼-14¾	14¼-14¾	14¼-14¾
64-66 Straight-run gasoline	-15	14½-15	14¾-15
68-70 Straight-run gas. 350 E.P.	15¼-15½	15¼-15½	15¼-15½
68-70 Straight-run gas. 305-320 E.P.	17 -18	17½-18	17½-18
70-72 Straight-run gas. 300-305 E.P.	18½-19	-19	-19
OKLAHOMA			
48-50 450 E. P. naphtha	10¼-10½	9½-10	9¾-10
50-52 450 E. P. naphtha	10¼-10½	9½-10	9¾-10
56-58 450 E. P. gasoline	-10¾	10 -10¼	9¾-10
58-60 U.S. Motor 437 E.P.	11 -11¼	10¼-10½	10¼-10½
60-62 400 E. P. gasoline	12¼-12½	11½-11¾	11½-11¾
64-66 375 E. P. gasoline	13¼-13½	12½-13	12½-13
68-70 350 E. P. gasoline	-13¾	-13¼	13 -13¼
NORTH TEXAS			
48-52 450 E. P. naphtha	10¼-10½	9½- 9¾	9¾-10
56-58 450 E. P. gasoline	10⅝-10¾	9¾-10	9¾-10
58-60 450 E. P. gasoline	-10¾	10 -10¼	-10
58-60 U. S. Motor gasoline	-11	10¼-10½	-10¼
60-62 400 E. P. gasoline	12¼-12½	-11½	11¼-11½
64-66 390 E. P. gasoline	13 -13¼	12¾-13	12¾-13
64-66 375 E. P. gasoline	13¼-13½	13 -13¼	13 -13¼
68-70 350 E. P. gasoline	-13¾	-13½	-13¼
NORTH LOUISIANA			
58-60 450 E. P. gasoline	-11¼	10½-10¾	10½-10¾
58-60 437 U. S. Motor gasoline	-11½	10¾-11	10¾-11
64-66 375 E. P. gasoline	-13½	-13¼	12¾-13
ARKANSAS			
58-60 450 E. P. gasoline	11¼-11½	10½-10¾	10½-10¾
58-60 U. S. Motor gasoline	11½-11¾	10¾-11	10¾-11
64-66 375 E. P. gasoline	-14	13¼-13½	13¼-13½
CALIFORNIA			
54-56 U. S. Motor gasoline	-11	-11	-11
42-45 Engine distillate, 445-480 E.P.	7½- 9½	7½- 9½	7½- 9½

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND
(F. O. B. Boston and Fall River)

U. S. Motor gasoline	-13½	-13⅝	-13¾

NATURAL GASOLINE

OKLAHOMA			
Grade Double A	-11¼	10 -10¼	-10
Grade A	-11¼	10 -10¼	-10
Grade Double B	-11	9¾-10	- 9½
Grade B	-11	9¾-10	- 9½
Grade C	-11	- 9¾	- 9¼

NOTE—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers:
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH TEXAS			
*Grade Double A	-11¼	10 -10¼	-10
*Grade A	-11¼	10 -10¼	-10
*Grade Double B	-11	9¾-10	- 9½
*Grade B	-11	9¾-10	- 9½
Grade C	-11	- 9¾	- 9¼

*F. O. B. Breckenridge.

CALIFORNIA			
73-78 375 E. P.	12¼-13½	12¼-13½	12¼-13½
OKLAHOMA NATURAL GASOLINE—BLENDS			
64-66 435-440 E. P.	10¾-11	-10	-10
NORTH TEXAS			
64-66 435-440 E. P.	-10¾	-10	-10
PENNSYLVANIA			
68-70 Grav. 437 E. P.	-13	-13	13 -13¼
64-66 Grav. 437 E. P.	-13	-13	13 -13¼
60-62 Grav. 437 E. P.	-13	-13	13 -13¼
68-70 Grav. 420 E. P.	-13½	-13¼	-14
68-70 Grav. 400 E. P.	-14	-14	14 -14¼

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	6¼- 6½	6¼- 6⅜	6¼- 6⅜
46 Water White Kerosene	6¾- 7	6¾- 7	- 7
47 Water White Kerosene	7½- 8	7½- 8	7⅜- 7¾
300 Burning Oil	- 7½	- 7½	- 7⅜
OKLAHOMA			
40-42 Prime White Distillate	3⅝- 3⅞	3⅝- 3¾	3½- 3¾
41-43 Water White Kerosene	4⅛- 4¼	4⅛- 4¼	4 - 4¼
42-44 Water White Kerosene		4¼- 4½	4⅜- 4½
NORTH TEXAS			
41-43 Water White Kerosene	- 4	- 4	- 4
42-44 Water White Kerosene	4⅛- 4¼	4⅛- 4¼	4⅛- 4¼
NORTH LOUISIANA			
41-43 Water White Kerosene	- 4½	- 4¾	- 4¾
ARKANSAS			
41-43 Water White Kerosene	- 4¾	- 4¾	- 4¾
42-44 Water White Kerosene	4¾- 5	4¾- 5	4¾- 5
CALIFORNIA			
40-42 Water White Kerosene	7½- 8	7½- 8	7½- 8

NEW ENGLAND
(F. O. B. Boston and Fall River)

40-43 Water White Kerosene	- 7	- 7	- 7¼

NEUTRAL OILS

PENNSYLVANIA	Prices May 11	Prices May 4	Prices Apr. 27
(Viscosity at 70°F.)			
220 Vis. No. 3 Assoc. Filt.	-26	26 -27	26 -27
200 Vis. No. 3 Assoc. Filt.	-22	22 -23	-23
180 Vis. No. 3 Assoc. Filt.	-20	20 -21	-21
150 Vis. No. 3 Assoc. Filt.	-18	18 -19	18¾-19
(Non-Viscous)			
34 Grav. 350-360 Flash	7¾- 8	7¾- 8	7¾- 8
36 Miners Neutrals 300-305 Flash	7¼- 7½	7¼- 7½	7¼- 7½
OKLAHOMA			
(Viscosity at 100°F.)			
70 Vis. No. 2½-3 color	6 - 6¼	6 - 6¼	8 - 8½
100 Vis. No. 2 color	6 - 6¼	6 - 6¼	7 - 9
100 Vis. No. 2½-3 color	5¾- 7½	5¾- 7½	7 - 8½
150 Vis. No. 3 color	10¾-11	10¾-11	10¾-11
150 Vis. No. 4 color	10½-10¾	10½-10¾	10½-10¾
180 Vis. No. 3 color	11¼-11½	11¼-11½	11¼-11½
180 Vis. No. 4 color	11 -11¾	11 -11¾	11 -11¾
180 Vis. No. 5 color	10 -11	10 -11	10 -11
200 Vis. No. 3 color	11½-13	11½-13	11½-13
200 Vis. No. 4 color	12 -12¾	12 -12¾	12 -12¾
200 Vis. No. 5 color	11 -12	11 -12	11 -12
220 Vis. No. 3 color	14¾-15	14¾-15	14¾-15
220 Vis. No. 4 color	14¼-14½	14¼-14½	14¼-14½
220 Vis. No. 5 color	13 -14	13 -14	13 -14
240 Vis. No. 3 color	16 -16½	16 -16½	16 -16½
240 Vis. No. 4 color	15¾-16	15¾-16	15¾-16
240 Vis. No. 5 color	15 -15¾	15 -15½	15 -15¾
280 Vis. No. 3 color	17¾-18	17¾-18	17¾-18
280 Vis. No. 4 color	16¾-17	16¾-17	16¾-17
280 Vis. No. 5 color	15¾-16	15¾-16	15¾-16
300 Vis. No. 5-6 color	18 -18½	18 -18½	19¼-19½
GULF COASTAL			
(Viscosity at 100°F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	9 - 9½	9 - 9½	9 - 9½
200 Vis. No. 3 Color Unfilt. Pale	13½-14	13½-14	13½-14
300 Vis. No. 3 Color Unfilt. Pale	16 -16½	16 -16½	16 -16½
500 Vis. No. 3½ Color Unfilt. Pale	18 -18½	18 -18½	18 -18½
750 Vis. No. 4 Color Unfilt. Pale	23 -23½	23 -23½	23 -23½
200 Vis. No. 5½ Color Red Oil	12 -12½	12 -12½	12 -12½
300 Vis. No. 5½ Color Red Oil	14 -14½	14 -14½	14 -14½
500 Vis. No. 6 Color Red Oil	16 -16½	16 -16½	16 -16½
750 Vis. No. 6 Color Red Oil	20 -21	20 -21	20 -21
CALIFORNIA			
(Viscosity at 100°F.)			
100 Vis. No. 2 color	13½-14½	13½-14½	13½-14½
100 Vis. No. 3 color	9 -10	9 -10	9 -10
200 Vis. No. 3 color	14½-15½	14½-15½	14½-15½
300 Vis. No. 3 color	14 -16	14 -16	14 -16
450 Vis. No. 3½ color	19½-20½	19½-20½	19½-20½
550 Vis. No. 3 color	21½-22½	21½-22½	21½-22½
600 Vis. No. 3½ color	23½-24½	23½-24½	23½-24½
100 Vis. No. 5 color	8 - 9	8 - 9	8 - 9
200 Vis. No. 5 color	13½-14½	13½-14½	13½-14½
300 Vis. No. 5 color	14 -15	14 -15	14 -15
400 Vis. No. 5 color	16 -17	16 -17	16 -17
500 Vis. No. 5 color	17 -18	17 -18	17 -18
600 Vis. No. 6 color	18 -19	18 -19	18 -19
700 Vis. No. 7 color	19½-20½	19½-20½	19½-20½

CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -36	31 -36	31 -36
150-160 Vis. at 210° Bright Stock	28 -32	28 -32	28 -32
600 E Stock, 140-150 Vis. @ 210°	15 -20	15 -20	15 -19½
600 Steam Refined Olive Green	9 -11	9 -11	9 -11
600 Steam Refined Dark Green	6½- 8	6½- 8	6½- 8½
Black Oil	5¼- 5½	5¼- 5½	5¼- 5½
PENNSYLVANIA			
(1-inch Immersion Test)			
600 Steam Refined	17½-18	17½-18	-17
635 Steam Refined	24½-25	23½-24	23 -23½
650 Steam Refined	26 -26½	25 -26	24½-25
600 Flash	29 -30	28 -29	28 -29
600 Warren E	24 -24½	-24	23½-24
600 Oil City E	23 -23½	-23	22½-23
600 Filtered D	29 -30	-29	28½-29
Cold Test Stocks (bright filtered)	37 -38	37 -38	37 -39
Cold Test Stock (dark filtered)	35 -36	35 -36	35 -36
Black Oil	8 - 8½	8 - 8½	7½- 8

(Note—Prices of total immersion test goods average 1 to 2 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

The Last Drop is The Last Drop

The Hackney Two-Piece Barrel

Hackney Two-Piece Barrels and Drums are made of two seamless sections. The result is a container with a welded center seam and integral, one piece chimes, Hackney raised openings are included on this package.

There's space in the coupon to check for quotations on this Hackney.

The Hackney One Time Shipper

These Hackneys are built to handle their job of getting their contents to its destination without leakage losses or damage. They are stocked for immediate shipment.

You can get quotations by checking the coupon.

Check the items in which you're interested, fill in name and address—tear and send.

Hackney Steel Drums ☐
Hackney Two Piece Barrels ☐
Hackney One Time Shippers ☐

Name .....

Address .....

City ..... State .....

HACKNEY Steel Drums give the buyer of your product all that he is paying for—for the last drop from a Hackney is the last drop that it contains.

It doesn't take many barrels to make those saved drops amount to pints, quarts and gallons—and gallons are well worth saving.

The patented raised opening construction permits every drop of the barrels capacity to flow out freely. And the chime construction is free from pockets. Liquid cannot coliect and stay there when the barrel is being drained.

In addition to giving up its last drop, the Hackney chime assures a maximum of trouble-free leakproof service. It is brazed over a binding area of approximately eight times that of the ordinary welded chime.

Brazing over such an area makes the chime strong, leakproof and rust proof.

This steel drum is only one of many Hackney containers, but its careful, service rendering construction is typical of Hackney packages. If you ship in barrels or drums, there are Hackneys to carry your products more securely and often more cheaply, for you.

That's why we have included the coupon to the left. It will bring you quotations and our complete catalogue (M) of sizes, specifications, uses and features.

PRESSED STEEL TANK COMPANY

1141-208 South La Salle St., Chicago, Ill.
1317-52 Vanderbilt Avenue, New York, N. Y.

Hackney
MILWAUKEE

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices May 11	Prices May 4	Prices Apr. 27
	(Per Pound New York)		
122-124 White Crude Scale.	5¾- 5¾	5 - 5¾	- 5
124-126 White Crude Scale.	- 5¾	5¾- 5¾	5 - 5¾
OKLAHOMA	(Per Pound Group 3)		
124-126 White Crude Scale.	4¾- 4¾	- 4¾	- 4¾
CALIFORNIA			
White Crude Scale.....	7½- 8	7½- 8	7½- 8

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	5¾- 5¾	5¾- 5¾	- 5¾
30-34 Fuel Oil.....	- 5	- 5	- 5
28-30 Fuel Oil.....	- 5	- 4¾	4¾- 5
OKLAHOMA			
38-40 Straw distillate.....	3 - 3⅛	3⅛- 3¼	3⅛- 3¼
36-38 Straw distillate.....	- 3	3 - 3⅛	- 3⅛
32-36 Gas oil.....	2¾- 2⅞	2¾- 3	2¾- 3
26-30 Fuel oil (Bbl.).....	95 -97½	.97½-1.00	1.02½-1.05
24-26 Fuel oil (Bbl.).....	90 -92½	.90 - .93	.95 -1.00
24-26 Fuel oil (Buyers' cars)	87½-92½	.90 - .95	.95 -1.00
20-22 Fuel oil (Bbl.).....	87½-90	.90 - .92½	- .95
50-60 Asphaltic content road oil.....	-1.25	-1.25	-1.25

NORTH TEXAS	Prices May 11	Prices May 4	Prices Apr. 27
36-40 Straw Distillate.....	3¼- 3¼	3¼- 3¼	3¼- 3¼
32-36 Gas Oil (Gal.).....	2¾- 3	2¾- 3	2¾- 3
24-26 Fuel, per bbl.....	.87½- .90	- .90	.95 - .97½
GULF COASTAL			
Fuel.....	1.70 -1.80	1.70 -1.80	1.70 -1.80
Gas Oil.....	5¼- 5½	5¼- 5½	5¼- 5½
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)	3¼- 3¼	3¼- 3¼	3¼- 3¼
20-24 Fuel Oil (Bbl.).....	.85 - .90	.85 - .90	90 - 95
ARKANSAS			
32-36 Gas Oil.....	3⅛- 3¼	3¼- 3⅛	3¼- 3⅛
18-22 Refinery Fuel Oil (Bbl.).....			
Smackover fuel (processed)	.80- .85	.75 - .80	.75- .80
Road Oil.....	3 - 3½	- 3½	- 3¼
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.60	1.60	1.60
14-18 Bunker Oil (Bbl.)...	1.60	1.60	1.60
24-30 Gas Oil (Bbl.).....	1.85	1.85	1.85
27 + Diesel Oil (Bbl.)....	1.85	1.85	1.85
NEW ENGLAND	(F. O. B. Boston and Fall River)		
30-32 gas oil (gal.).....	- 5¼	- 5¼	- 5¼
Fuel Oil (Bunker C) bbl...	-1.80	-1.82	-1.90

*Prices at southern California points. Prices at San Francisco 5c per bbl. higher.

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 209)

cents, and in some instances 4½, and the 42-44 water white was moving generally to the trade at 4½ cents, with some refiners reporting sales at 4¾ and 5 cents.

Fuel Oil Firmer

The advance of 20 cents in price of Smackover heavy crude has given refiners a more optimistic outlook on the fuel oil market, and is expected to halt the decline in fuel prices. Buyers have stayed out of the market except to buy their immediate needs in the belief that fuel might continue weak over summer because of heavy production at Smackover. Refiners feel that more business will be placed in the near future as the lower priced Arkansas fuel becomes a lessening factor.

One refiner today advanced his price of 18-22 fuel from 85 to 90 cents per barrel. The 24-26 gravity has been purchased for resale at 85 cents, but was generally held at a minimum of 87½ cents, with some sales at 92½ cents, and the 26-30 gravity was generally quoted to the trade at 95 cents upward.

A few soft spots developed among the lubricating oils. Refiners reported movement of neutrals as satisfactory, but cylinder stocks were slow with some inclination to shade prices. Wax was strong and well sold up. One large refiner was asking 5 cents for 124-126 white crude scale wax.

PITTSBURGH, Pa.—Waverly Oil Works Co. has just completed the installation of two new pumps for the Freeport Highway Motor Co. at Freeport, Pa. The company handles Waverly products exclusively, according to Thomas D. Hudepohl, salesman for the company at Tarentum.

North Texas Gasoline Markets Stronger

WICHITA FALLS, May 9.—The north Texas market has turned upward following purchases of U. S. Motor gasoline by the Carter Oil Co. for the Standard Oil Co. of Louisiana. U. S. Motor gasoline which on Monday was held at 10¼ to 10½ cents, has advanced until it is crowding the 11-cent figure. Activities of exporters have strengthened the lighter gasolines.

Little U. S. Motor is now available for immediate shipment and offers of 10¾ cents by the Carter Oil Co., who were offering 10½ cents when they first entered the market, have brought out a great amount of material. Several refiners were quoting 11 cents today and prices were being firmly held as many refiners were well sold ahead.

The 450 end point material has closely followed U. S. Motor and appeared well taken up with refiners demanding 10½ to 10¾ cents for the 58-60 gravity and 10¼ to 10½ for 56-58. Only a small amount of these grades are now being cut.

Comparatively little 60-62, 400 end point gasoline was offered last week and prices of 12¼ to 12½ cents were largely nominal. Exporters seeking 64-66, 375 end point gasoline found little material at 13¼ cents, and refiners were asking 13½ cents at the end of the week. This grade is well sold ahead for several weeks and higher prices would not come entirely as a surprise.

Refiners are optimistic concerning gasoline because they are well taken care of on orders for practically all grades and will probably not be forced to crowd the market in the event it should again drag within the next week or 10 days as was the case after the Standard order at the middle of last month. Refiners feel that more active buying by jobbers would strengthen the market further.

Natural gasoline has reached the position where it is more a case of supply than a matter of price. Prices maintained their upward trend of the last few weeks. For what material was available manufacturers were demanding 11 cents for Grade A, 10¾ cents for each of Grades B and C. Some of them are well sold up over May. Little naphtha is being manufactured by refiners but the 450 end point grades were held at 10 cents and above.

Kerosene continued slow at unchanged prices. The 41-43 water white was freely available at 4 cents, with some refiners willing to move material at 3⅞ cents on northern shipments. The 42-44 water white was offered at from 4⅛ to 4¼ cents. Distillates have shown no improvement either in price or movement. Gas oil was quiet and prices generally were around 2¾ to 2⅞ cents, although one sale was made for cracking purposes at a slightly higher price.

Fuel oil weakened further. Several sales having been made over May at 85 cents and a few odd cars were reported to have moved as low as 80 cents for resale. Most buyers are taking only enough material for present requirements. The Pure Oil Co. bought around 250 cars of fuel oil for coastwise shipment from the Gulf at approximately 90 cents per barrel for prompt shipment.

WELLINGTON, Tex.—Home Oil Co. just completed its third service station here, reports R. L. Gillentine, president.

Chicago Resale Market Improved Because of Carter Purchase

CHICAGO, May 9.—Prospects for another dull week in Chicago gasoline market were strong at the beginning of this past week, but on Wednesday they were knocked in the head when Carter Oil Co. (Standard Oil Co. of New Jersey) entered Mid-Continent markets buying U. S. Motor gasoline for shipment to Standard Oil Co. of Louisiana for export. As a result, the Chicago resale gasoline market has strengthened and quotations on U. S. Motor are ½ to ¾ cent over those of last Saturday.

P. S. Motor gasoline today is quoted to the trade at 11 to 11¼ cents with the 11-cent material fast becoming scarce. Some material in transit is moving at a shade lower but the quantities are virtually nothing and not representative of the market.

Carter Oil Co.'s second entrance to the market came when shipments on their recent orders were about half completed, and rumors are to the effect that approximately 500 cars of gasoline have been purchased in addition to the previous orders for 1800 cars. And the redeeming feature of the whole transaction is that the gasoline purchased will move out of the country and not into jobbers' storage and consequently be on hand as a domestic factor.

The fact that Standard's purchases in the past two years have never totaled the amount purchased this year presents itself as another favorable factor. The market for 1925 has thus far coincided minutely with the markets of 1924 and 1923, but the present situation deviates from the conditions existing during the last two years and the market now seems to be on an upward trend whereas at this time in 1924 and 1923 it was slipping rapidly.

Optimism is the prevailing element among both refiners and marketers in Chicago. Jobbers have not yet fully responded to the upward tendency of the market but consensus of opinion among the trade in Chicago is that jobbers' stocks are near bottom. Their recent policy has been to buy only their immediate requirements. But with stocks almost down to the danger point and the market seemingly to have taken definite steps toward an upward trend more extensive jobber buying is thought to be sure during the coming week.

High gravity gasolines are firmer and prices are higher but they are not proportionately strong with U. S. Motor gasoline. The 60-62, 400 end point gasoline is scarce and several refiners state they are temporarily out of the market. It is reported that two large companies in the market for 64-66, 375 end point gasoline are having no success in finding material at 13¼ cents.

Demand for kerosene continues about the same, with 41-43 gravity quoted at 4¼ to 4⅜ cents and 42-44 gravity at 4½ to 4⅝ cents. With the distillate season at an end, that oil is freely available at 3 to 3¼ cents. Gas oil is easy at 2¾ to 3 cents.

The increase on Friday in the posted price of Smackover crude oil strengthened prices of Smackover fuel and the bottom price for a good grade of stuff is 85 cents today.

Oklahoma fuel oil has responded somewhat to the strength of Smackover and 24-26 is slightly firmer at 90 to 95 cents.

Week's Price Changes Tank Wagon Market

Gasoline Changes

Standard of New York.—T.w. and s.s. reduced 2 cents, to 18 and 20 cents respectively, in greater New York only, May 7. This cut was to meet the 2 cent cut of The Texas Co. of May 6, made in greater New York, Springfield, Mass. and Lewiston, Me.

* * *

Canada.—T.w. and s.s. advanced 3 cents in Ontario, covering 3 cent gasoline tax, effective May 11.

FALMOUTH, Ky.—The Robbins Oil Co. has purchased the Rogers & Robbins bulk station here, reports C. E. Robbins, general manager of the former company.

Better Weather Forecast For This Week

CHICAGO, May 10.—Weather fairly favorable for motoring is predicted for next week. Generally fair, is the forecast for the first few days. Temperatures somewhat below the seasonal average will prevail during the first few days but warmer weather is in sight about the middle of the week.

There will be frequent scattered showers in the Great Lakes region, the upper Mississippi and lower Missouri valleys during the latter part of the week. The Ohio valley and Tennessee will get its share of the showers early in the week. The subsequent period will be fair and warmer.

Rainfall was general throughout the middle west late last week, and this combined with unseasonably low temperatures has not been overly inducive to motoring.

Benzol is Steady

NEW YORK, May 11.—Benzol prices were unchanged with the exception of the contracts based on gasoline prices. Production continues along even lines and is readily absorbed by standing contracts. The export inquiry has improved a little but comparatively little export business has been closed.

Motor fuel manufacturers report an increase in consumption and are finding difficulty in meeting demands. Spot benzol at the ovens is unchanged at 22 cents a gallon in tank cars but little is being offered at this price.

Pennsylvania Cylinder Stocks More Active and Prices Strengthen

CLEVELAND, May 11.—Increased buying of steam refined stock has strengthened this class of goods in the Pennsylvania refinery markets during the last week. Prices of several grades have been advanced and others are firm.

Gasoline has been stronger since the price of U. S. Motor strengthened in the Mid-Continent but the price in Pennsylvania is slow in rallying to the improved conditions and is lower than the usual differential over the Group 3 price.

Neutrals oils are spotty. A few refiners are endeavoring to maintain their price levels at 19, 21 and 23 cents for the 150, 180 and 200 viscosity No. 3 color grades but most of these oils selling at present are going at 18, 20 and 22 cents. Some concessions under these prices are reported to have been made in cases where a refiner was particularly anxious to move these oils. Several refiners are still out of the neutrals market having been sold up for weeks in advance. They are naturally firm in their quotations which, however, do not constitute the spot market.

Kerosene prices are steady. Demand is fair but insufficient to cause any advance of prices. The 36-40 gas oil continues to hover around 5¼ to 5½ cents but the heavier grades which are not plentiful at present are firm at 5 cents.

Wax is strong with more refiners inclined to hold for 5¼ cents for 122-124 A.m.p. white crude scale.

Kentucky

Gasoline is stronger in the central Kentucky market but kerosene is weaker. Gas and fuel oils are steady. Gasoline prices at central Kentucky plants follow: 58-60, 13¼; 60-62, 14¼, and 64-66, 15 cents. Kerosene, 42-44 water white, 7 cents; 34-38 gas oil, 5 cents, and 24-26 fuel oil 4 cents.

PITTSTON, Pa.—Two of the most modern and attractive service stations in Luz county are located at Pittston, according to H. D. Kasper of West Pittston.

Tank Wagon, Service Station Markets for Gasoline and Kerosene
in United States Territories and Canada

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers.

These prices in Effect May 11, 1925

S. O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Atlantic City, N. J.	17	0	17	*	12.5
Newark, N. J.	17	0	17	19	12.5
Annapolis, Md.	18	2	20	*	12
Baltimore, Md.	17	2	19	21	11
Cumberland, Md.	18	2	20	22	12
Washington, D. C.	17	2	19	21	12
Danville, Va.	18	3	21	*	13
Norfolk, Va.	18	3	21	23	13
Richmond, Va.	18	3	21	23	13
Roanoke, Va.	18	3	21	23	13
Petersburg Va.	18	3	21	*	13
Charleston, W. Va.	17	2	19	21	13
Clarksburg, W. Va.	18	2	20	22	13
Keyser, W. Va.	18	2	20	*	13
Parkersburg, W. Va.	17	2	19	21	13
Wheeling, W. Va.	17	2	19	21	13
Williamsburg, W. Va.	18	2	20	*	13
Charlotte, N. C.	18	4	22	24	14
Hickory, N. C.	18	4	22	*	14
High Point, N. C.	18	4	22	*	14
Mt. Airy, N. C.	18	4	22	*	14
Salisbury, N. C.	18	4	22	*	14
Charleston, S. C.	18.5	5	23.5	25.5	14.5
Columbia, S. C.	18.5	5	23.5	25.5	14.5

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	18	0	18	20	13
Albany, N. Y.	20	0	20	22	13
Buffalo, N. Y.	20	0	20	23	13
Rochester, N. Y.	†20	0	†20	†24	13
Syracuse, N. Y.	20	0	20	22	12
Boston, Mass.	20	0	20	24	11
Augusta, Me.	20	1	21	24	13
Manchester, N. H.	20	2	22	26	13
Burlington, Vt.	20	2	22	25.5	13

*In steel barrels.
†At Rochester only, as far as is known, Standard sells two grades of gasoline, the above price applying to its Socony grade, and another grade being sold 2c below this price.

ATLANTIC REFINING

Pittsburgh, Pa.	19	0	19	*24	14
Philadelphia, Pa.	19	0	19	*24	14
Allentown, Pa.	19	0	19	*24	14
Erie, Pa.	19	0	19	*24	14
Scranton, Pa.	19	0	19	*24	14
Altoona, Pa.	19	0	19	*24	14
Dover, Del.	19	2	21	24	14
Wilmington, Del.	19	2	21	24	14
Providence, R. I.	20	0	20	24	13
Springfield, Mass.	20	0	20	24	13
Worcester, Mass.	20	0	20	24	13
Hartford, Conn.	20	1	21	25	12
New Haven, Conn.	20	1	21	25	13
Boston, Mass.	20	0	20	24	11

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	18	3	21	24	14
Louisville, Ky.	18	3	21	24	12
Covington, Ky.	17	3	20	23	14
Clarksdale, Miss.	18	3	21	24	12
Jackson, Miss.	18	3	21	24	10
Natchez, Miss.	17.5	3	20.5	23.5	11.5
Vicksburg, Miss.	17.5	3	20.5	23.5	11.5
Birmingham, Ala.	19	2	21	24	14.5
Mobile, Ala.	18	2	20	23	12.5
Montgomery, Ala*	20	2	22	25	15.5
Atlanta, Ga.	20	3	23	26	13
Augusta, Ga.	20	3	23	26	15
Macon, Ga.	20	3	23	26	14.5
Savannah, Ga.	18	3	21	24	13
Jacksonville, Fla.	18	3	21	24	13
Miami, Fla.	20	3	23	26	14.5
Tampa, Fla.	18	3	21	24	13
Pensacola, Fla.	18	3	21	24	13.5

*Local privilege tax of 1 cent of gasoline and ½ cent on kerosene at Montgomery included.

S. O. INDIANA

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Chicago, Ill.	†18	0	†18	20	12
Decatur, Ill.	18.2	0	18.2	20.2	12.5
E. St. Louis, Ill.	17.1	0	17.1	19.35	11.6
Joliet, Ill.	18.4	0	18.4	20.4	12.7
Peoria, Ill.	18.2	0	18.2	20.2	12.5
Quincy, Ill.	18.2	0	18.2	20.2	12.3
Indianapolis, Ind.	18.2	3	21.2	23.2	12.7
Evansville, Ind.	18	3	21	23	12.5
South Bend Ind.	18.4	3	21.4	23.4	12.9
Detroit, Mich.	18.8	2	20.8	22.8	13.2
Grand Rapids, Mich.	18 7	2	20.7	22.7	13.1
Saginaw, Mich.	18.9	2	20.9	22.9	13.3
Madison, Wis.	18.3	2	20.3	22.3	12.5
Milwaukee, Wis.	18.1	2	20.1	22.1	12.3
La Crosse, Wis.	19.2	2	21.2	23.2	13.4
Minneapolis, Minn.	19.2	2	21.2	23.2	13.6
Duluth, Minn.	19.5	2	21.5	23.5	13.6
Mankato, Minn.	19.1	2	21.1	23.1	13.4
Des Moines, Iowa.	18.5	2	20.5	22.5	12.9
Davenport, Iowa	18.5	2	20.5	22.5	12.9
Sioux City, Iowa.	18	2	20	22	12.5
Mason City, Ia.	18.5	2	20.5	22.5	12.9
St. Louis, Mo.	**17.6	2	19.6	21.9	12
Kansas City, Mo.	††18.9	2	20.9	22.9	11.3
St. Joseph, Mo.	**18	2	20	22	11.9
Fargo, N. D.	19.9	1	20.9	22.9	15.6
Grand Forks, N. D.	20.1	1	21.1	23.1	15.9
Minot, N. D.	20.9	1	21.9	23.9	15.6
Pierre, S. D.	20	3	23	*	14.1
Huron, S. D.	15	3	18	20	14.1
Wichita, Kans.	17.8	2	19.8	21.8	11.8
Bartlesville, Okla.	16.9	3	19.9	21.9	10.9

†Dumps of 100 or more gallons at 17c per gallon.
*S. O. Indiana does not operate station.
**Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	19	2	21	*	13.25
Omaha, Neb.	16	2	18	20	12.5
McCook	19.75	2	21.75	23.75	14
Norfolk	18.75	2	20.75	22.75	13
North Platte	19.75	2	21.75	23.75	13.75
Scotts Bluff	19 25	2	21.25	23.25	13.25

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	19	2	21	23	14.5
Pueblo, Colo.	19	2	21	23	14.5
Casper, Wyo.	19	2½	21.5	23.5	13
Cheyenne, Wyo.	20.5	2½	23	25	14.5
Butte, Mont.	21	2	23	23	16
Helena, Mont.	23	2	25	27	17
Salt Lake City, Utah.	20.5	3½	24	26	18
Boise, Ida.	21.5	3	24.5	26.5	20
Albuquerque, N. M.	23.5	3	26.5	29.5	16.5

S. O. CALIFORNIA

Phoenix, Ariz.	20	3	23	26	21.5
Los Angeles, Cal.	13.5	2	15.5	18.5	15.5
Fresno, Cal.	15.5	2	17.5	20.5	17.5
San Francisco, Cal.	15	2	17	20	15.5
Reno, Nev.	18.5	4	22.5	25.5	19
Portland, Ore.	15	3	18	21	16.5
Seattle, Wash.	15	2	17	20	16.5
Spokane, Wash.	19	2	21	24	20.5
Tacoma, Wash.	15	2	17	20	16.5

S. O. LOUISIANA

Camden, Ark.	17	4	21	23	12
Little Rock, Ark.	17	4	21	23	10
West Helena, Ark.	17	4	21	23	11
Alexandria, La.	16.5	2	18.5	20.5	12
Baton Rouge, La.	15	2	17	19	10.5
Lake Charles, La.	16.5	2	18.5	20.5	12
New Orleans, La.	16.5	2	18.5	20.5	11
Shreveport, La.	16.5	2	18.5	20.5	11
Bristol, Tenn.	18	3	21	23	12.5
Chattanooga, Tenn.	17.5	3	20.5	22.5	13.5
Knoxville, Tenn.	18.5	3	21.5	23.5	14
Nashville, Tenn.	17.5	3	20.5	22.5	12.5
Memphis, Tenn.	16	3	19	21	13

S. O. OHIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
All Ohio points	*18.5	2	20.5	22.5	15

*This price is on the assumption the Ohio distributor pays the 2c gasoline tax.

MAGNOLIA PETROLEUM

Muskogee, Okla.	15.5	3	18.5	21.5	12
Oklahoma City	16.5	3	19.5	22.5	12
Tulsa, Okla.	15.5	3	18.5	21.5	11
Fort Smith, Ark.	17	4	21	24	12
Little Rock, Ark.	17	4	21	23	10
Texarkana, Ark.	18	4	22	25	12
Dallas, Tex.	16	1	17	21	12
El Paso, Tex.	17	1	18	21	13
Fort Worth, Tex.	16	1	17	21	12
Houston, Tex.	16	1	17	21	12
San Antonio, Tex.	14	1	15	18	12

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city, the 4c state tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline)

	V.M.&P. Naphtha	Oleum Spirits
Chicago	21	19
Detroit	22.7	20.2
Milwaukee	21.7	19.2
Minneapolis	23	20.5
St. Louis	20.9	18.4
New York	19½	....
Cleveland	19	....

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

Prices in effect May 11, 1925

ONTARIO

	Gasoline T.W.	Tax	Total	S.S.	Oil T.W.
Toronto	23.5	3	26.5	30	20
Ottawa	24.5	3	27.5	31	21
Cochrane	28.5	3	31.5	35	24.5
Ft. William	26.5	3	29.5	33	22.5
MANITOBA					
Winnipeg	26.5	3	29.5	33	22.5
SASKATCHEWAN					
Regina	29.5	0	29.5	33	25.5
ALBERTA					
Edmonton	31.5	2	33.5	37	27.5
Calgary	30.5	2	32.5	36	26.5
BRITISH COLUMBIA					
Vancouver	21	3	24	28	23
QUEBEC					
Montreal	23.5	3	26.5	30	20
Quebec City	25.5	3	28.5	32	22
NEW BRUNSWICK					
St. John	26.5	0	26.5	30	20
Moncton	26.5	0	26.5	30	22
NOVA SCOTIA					
Halifax	26.5	0	26.5	30	23
Sydney	28.5	0	28.5	32	25
PRINCE EDWARD ISLAND					
Charlottetown	26.5	2	28.5	30	23

Note: In districts surrounding these points 1c additional is added to city price.

Complete Export Markets

New York **Gulf Coast** **California**

Inquiries Numerous at New York But Buying Orders Are Few

By Special Correspondent

NEW YORK, May 11.

EXPORT buying interest was keen enough last week, but few sales were reported. Advances in the Gulf market brought about six inquiries in the New York market for mixed cargoes, but prices for virtually all major petroleum products were weak. This tended to discourage forward buying.

A large United Kingdom buyer was inquiring for two mixed cargoes May-June shipment, 42,000 barrels apiece, but the break in the gasoline tank wagon price along with the decline in bulk kerosene caused this factor to hold off. French buyers were inquiring for three mixed cargoes of 42,000, 49,000 and 35,000 barrels, for May-June shipment. Spanish buyers were also inquiring for two mixed cargoes while a Scandinavian buyer was looking around for a cargo of prime and water white kerosene. It is believed that one cargo was sold to a French buyer for June shipment aggregating 42,000 barrels, at 12 cents for U. S. Motor and 15 cents for 64 gravity.

At the start of the week, U. S. Motor was quoted at 12¼ to 12½ cents a gallon, bulk, refinery, but the 2-cent break in the tank wagon prices brought bulk goods down to 12 cents with indications that 11¾ cents might have been done in several directions, and the talk of advances in Chicago, Mid-Continent and the Gulf failed to stabilize the market. Cased gasoline was very quiet throughout the week. There was an inquiry in the market for 25,000 cases of gasoline for June shipment to the Near East but this is still pending.

Kerosene was ¼ cent a gallon lower, and at the close of the week water white was offered at 6¾ cents, in bulk at local refineries. There was a fairly large contract movement in cased goods, but no confirmed bulk sales were disclosed. Shipments on consignment have also been fairly large but nevertheless, stocks are piling up, and prices tending downward. A Chinese buyer was inquiring for 50,000 cases for May-June shipment, and it is expected that one of the large independents will close this contract early this week.

Export demand for Pennsylvania cylinder stocks has looked up quite a little and four sales of 500 barrels each were reported, all going to two large independents. For Pennsylvania 600 s. r. in barrels, New York the price was advanced 1 cent a gallon and is now quoted at 25½ to 26½ cents a gallon in barrels. French buyers are credited with all of the purchases. Spindle oils were also in better demand but no important price fluctuations were reported.

Bunker oil was quiet and unchanged at $1.75 a barrel for grade C in bulk at the local refineries. Export buying was negligible. There is a fair contract movement but the market is weak. Diesel oil was barely steady at $2.30 a barrel refinery, unchanged from the previous week. As in bunker oil the movement was almost entirely against contracts.

Gas oil was flat but prices held steady. Export business was almost at a standstill. There were no inquiries reported worth mentioning. For 36-40 in bulk at the refineries 5¾ cents was asked while 28-34 was fairly steady at 5½ cents a gallon. Domestic demand is a little more active and this is holding prices steady.

The waxes were decidedly firmer at the start of the week, reflecting the marked improvement in the export demand but as the week drew to a close, foreign buyers withdrew from the market having covered their immediate future requirements, but local refiners are confident that there will be a renewal of buying on a fairly large scale this week. United Kingdom buyers were credited with three purchases of fifty tons each while Spanish buyers purchased many small lots. As the week closed white crude scale 122-124 A.m.p. was quoted at 5 to 5⅛ cents while match, 105-108 A.m.p. was available at 5⅞ to 6 cents a pound. Fully refined 120-122 A.m.p. was held at 5⅞ cents while 133-135 was quoted at 7⅝ to 7¾ cents.

The petrolatums showed little change. Export buying was spasmodic and light and snow white was unchanged at 12½ cents while lily white was available at 10½ cents. The medicinal oils are marking time at unchanged prices.

Export Demand Heavy at Gulf; Gasoline Market Stronger

NEW ORLEANS, May 11.—Export demand for mixed cargoes of gasoline and kerosene was more active last week. A French buyer purchased two cargoes, 42,000 barrels each, May-June shipment, from two leading refiners. U. S. Motor is reported to have sold at 11¾ cents and 64-66 gravity at 14¾ cents while prime white brought 5¼ cents and water white 6½ cents. These sales were made early in the week.

A United Kingdom buyer is credited with the purchase of a cargo of 50,000 barrels of gasoline and kerosene at 12 cents for U. S. Motor; 15 cents for 64-66; 5¼ cents for prime white and 6¼ cents for water white. This sale is reported to have been made by one of the leading refiners. At the close of the week, this factor was asking 16 cents for 64-66 gravity and 13 cents for U. S. Motor but 15½ and 12½ cents could have been done.

The advance in the Mid-Continent gasoline market which was attributed to heavy buying by the Texas and the Gulf companies, tended to strengthen the Gulf market, and exporters buying in the Mid-Continent were asking 12½ cents for U. S. Motor but the seaboard refiners were quoting 12 cents late in the week.

Cased gasoline was quiet. There was an inquiry in the market from Japan for 25,000 cases late May early June shipment, but this is still pending. There is a fair movement on contract, but demand for cased gasoline has been disappointing of late.

Kerosene was weaker. However, a Scandinavian buyer purchased a cargo of 50,000 barrels of prime white for June shipment at 5¼ cents a gallon, from a leading Independent. Early in the week water white was held at 6½ but on Saturday 6¼ cents could have been done in several directions. There was an inquiry from a French buyer for a cargo of 42,000 barrels, gasoline and kerosene mixed, but there was

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	May 11	May 4
U. S. Motor Gasoline, Tank Cars Delivered	-13¼	-13¼
U. S. Motor Gasoline, Tank Cars Bayonne	12 -12¼	12¼-12½
Kerosene, 45-150 W. W. Tank, Cars Del'd	-.08	-.08
Grade C Bunker, f.o.b. N.Y.	1.75	1.75
Diesel Oil f.o.b. Refinery	2.30	2.30
Gas Oil, 36-40, Bulk, Refinery	-05¾	-05¾
Gas Oil, 28-34	-05½	-05½

a variance of about ½ cent between refiners and buyers and the sale fell through. Cased prime white was still quoted at $1.60 and water at $1.70 in cargo lots but no actual purchases were reported, the movement being chiefly against contracts.

The zero cold test lubricants were also down. Most grades were reduced ½ cent a gallon reflecting the slump in the export demand. Very little foreign buying interest was shown at any time and no bulk movements were disclosed. There has been a more active inquiry for western cylinder stocks but actual purchases were very small. At the close of the week 100 viscosity No. 2 unfiltered pale was available at 8½ cents while 200 5½ red oil was quoted at 11 cents.

Bunker oil was reduced to $1.50 by a large Independent. Heavy Mexican crude oil is nominal. Grade C bunker oil was quoted at $1.50 a barrel, taxes included, at Tampico, while domestic oil was held at $1.55 a barrel at New Orleans. No export demand worth mentioning developed last week. Stocks are large.

Gas oil was steady but foreign demand lagged throughout the week. There was an inquiry for 35,000 barrels of 26-28 for June shipment to Scandinavia but this was considered nothing more or less than a "feeler." The price of this oil was quoted from 5¼ to 5½

Packing for Export

Oldest, Largest independent, export packing plant.

Port of New Orleans.

BARRELS
tight or slack
DRUMS
Storage

Lubricating oil, Petrolatum, Wax, Kerosene, Gasoline.

P. W. Babcock

Office: 24 Stone Street, New York City

Plant: Westwego, New Orleans

New York Export Market

Prices below are averages of actual sales by local exporting Agencies

GASOLINE	May 11	May 4
U. S. Motor, Bulk, Ref.	-12	-12¼
KEROSENE		
45-150 W. W. Bulk Ref. .06¼	-07	-07
GAS OIL		
36-40, Bulk Ref.	-05¼	-05¼
28-34, Bulk Ref.	-05¼	-05¼
BUNKER OIL		
Grade C, Ref.	1.75	-1.75
Diesel Oil Ref.	2.30	-2.30

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS BBLS.				
Penna. Filtered D 600	-36		-34	
Penna. Filtered E 600	-34	31	-32	
Unfiltered 600 s. r. .25½	-26½	24½	-25½	
Unfiltered 650 s. r.	-31		-31	
600 flash s. r.	-39		-39	
Western 600 s. r. .15	-17	14½	-15½	
Bloomless 30-31 grav.	-25		-25	
RED PARAFFIN (bbls.)				
300 vis. at 100°F. .24	-25	24	-25	
250 vis. at 100°F.	-25		-25	
175 vis. at 100°F.	-22½		-23	
High Viscosity Paraffin	-30		-31	
.885 s. g. pale 100 vis. at 100°F16	-16½	14½	-15	
SPINDLE (bbls.)				
200 vis. at 100°F. Pale	-22½		-23½	
180 Pale	-20		-23½	
150 Pale	-18		-21	
BLACK OIL (bbls.)				
25-30 cold test. .14	-15½	14	-15½	
15 cold test. .15	-15½	15	-15½	

MEDICINAL OILS (Cooperage Basis) (Penna. Stocks)	May 11	May 4
Domestic.875-.885s.g.drums	1.00-1.08	1.00-1.08
Domestic.865-.870s.g.drums	75 -80	75- 80
Russian.885-.890s.g.325-330 vis. drums.	1.20-1.25	1.23
WAXES (Penna. Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p. .05	-05¼	-05¼
124-126 A. m. p. .05¼	-05¼	-05¼
MATCH		
105-108 A. m. p.	-05¾	nominal
111-115 A. m. p.	nominal	nominal
FULLY REFINED		
120-122 A. m. p.	-05¾	-05¾
123-125 A. m. p.	-06	-06
125-127 A. m. p.	-06¼	-06¼
128-130 A. m. p.	-06¼	-06¼
130-132 A. m. p.	-06¾	-06¾
133-135 A. m. p.	-07¼	-07¼
SEMI REFINED		
122-124 A. m. p.	-05¼	-05¼
YELLOW CRUDE SCALE		
124-126 A. m. p.	-05	-05
PETROLATUMS (Penna. Stocks)		
Dark Green	02¾	02¾
Veterinary	03¼	03¼
Light Amber	03¾	03¾
Dark Amber	03¾	03¾
Cream	07¼	07¼
Lily White	10¼	10
Snow White	12¾	12¾

N. Y. Export Quotations

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

Illuminating Oils
Standard Oil of New Jersey

	May 11	May 4
Bulk, gal., Bayonne	6.50	6.50
Barrels, gal., Bayonne, cargo	13.50	13.50
Cases, gal., Bayonne	16.90	16.90

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

Gasoline-Naphtha (Cents per Gallon)

U. S. Motor, dead bulk	15.00	15.00
U. S. Motor, cases	29.15	29.15
Export Naphtha bulk	17.75	17.75
*62-63 deg. bulk	19.00	19.00
66-68 deg. bulk	20.50	20.50

*Grade changed from 64-66 to 62-63 Jan. 9.

Tide Water Oil Company (f. o. b. Bayonne)

58-59 deg. bulk	16.00	16.00
58-59 deg. cases	29.65	29.65
Export grade, U. S. Motor Specifications bulk	15.00	15.60
63-65 deg. bulk	19.00	19.00
68-72 deg. bulk	21.50	21.50

	Bulk	Barrels	Cases
Standard white 110	6.50	13.50	16.90
Water white 150	7.50	14.50	17.90

The Texas Company

Gasoline, cases	29.15	29.15

Kerosene	Bulk	Barrels	Cases
Standard White	6.50	13.50	16.90
Prime White	7.00	14.00	17.40
Water White	7.50	14.50	17.90

Gulf Export Market

(Actual Sales Prices)
Gasoline

	May 11	May 4
U. S. Motor, Bulk .12¾	-.13	-.11¾
60-62 gr. 400 e. p.	-.14	-.13
64-66, Bulk .15¾	-.16	-.14¾
U. S. Motor, Cases (cargo lots)	2.60	2.50
64-66, Cases (cargo lots).	2.85	2.75
KEROSENE		
Water White, bulk	-.06¾	-.06¾
Prime White, bulk	-.05¾	-.05¾
Water White, cases (cargo lots)	1.70	1.70
Prime White, cases (cargo lots)	1.60	1.60
GAS AND BUNKER OIL		
26-28, gravity, bulk	-05¼	-05¼
32 plus, bulk. Dark	-05	-05
Grade C, Bunker oil.	-1.55	-1.55
MEXICAN CRUDE AND BUNKER OILS		
Heavy, f.o.b. Tampico, Taxes to be added	nominal	nominal
Mexican Grade C, Bunker oil F. O. B. Tampico Taxes paid	1.50	1.50
Mexican C, Bunker oil New Orleans	1.50	1.55

Lubricating Oils

SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

	May 11	May 4
100 Vis. No. 2 Unfilt. Pale	8½	8½
150 Vis. No. 2½ Unfilt. Pale	10¾	10¾
200 Vis. No. 3 Unfilt. Pale	12¾	13
300 Vis. No. 3 Unfilt. Pale	15¾	16
500 Vis. No. 3½ Unfilt. Pale	17½	18
200 Vis. No. 5½ Red Oil	11	11½
300 Vis. No. 5½ Red Oil	13¾	14
500 Vis. No. 6 Red Oil	15¾	16
750 Vis. No. 6 Red Oil	20	20

cents while 32 plus dark was unchanged and dull at 5 cents a gallon.

The waxes held up well. Demand from Spain was more active, and a sale of 25 tons was reported by one of the smaller Independents while a United Kingdom buyer purchased 40 tons. White crude scale was a shade firmer towards the close of the week. Fully refined waxes were steady. Match waxes showed little change. Medicinal oils were quiet and devoid of new feature while the petrolatums marked time the greater part of the week, with export buyers showing little interest.

Eastern Shipments Help California Gasoline

LOS ANGELES, May 8.—The gasoline market has been stimulated by the first purchases of eastern oil companies this season. During the week 73,820 barrels of gasoline were shipped from Los Angeles to the Tide Water Oil Co. and 76,985 to the Sinclair Refining. There is a noticeable increase in Pacific coast gasoline demand.

Fuel oil is unchanged. Lubes are dull.

The oil companies are hoping that Governor Richardson will veto the bill to increase the gasoline tax 1 cent. The governor has announced that within the 30 days in which he has to sign this bill he is going to consider public opinion regarding it. He recently commented that this bill passed the legislature by only a small margin, that margin obtained by switching votes.

Cargoes Clearing From N.Y.

Date	Destination	Product	Quantity
Apr. 28	Marseilles	deo Naphtha	1,249,140 gals.
Apr. 28	Marseilles	U.S.N.Gasoline	319,487 gals
Apr. 22	Rosaria S. A.	Naphtha	1,000 cases
Apr. 22	Rosario S.A.	Ref. Pet.	15,000 cases
Apr. 22	Rosario S.A.	Gasoline	5,000 cases
Apr. 22	Rosario S.A.	Naphtha	12,000 cases
Apr. 22	Santa Fe S.A.	Ref. Pet.	5,500 cases
Apr. 22	Santa Fe S.A.	Naphtha	31,000 cases
Apr. 22	Montevideo	Ref. Pet.	11,878 cases
Apr. 22	Montevideo	Naphtha	24,000 cases
Apr. 22	Montevideo	Gasoline	13,000 cases

British Importations

During the week ended April 20 there were imported into the United Kingdom 25,840,962 imperial gallons. Larger receipts included:

Consignee	Imperial Gallons	Product	Port of Origin
At London—			
Shell	2,546,724	Crude	Curacao
Shell	571,427	Crude	Tampico
Shell	248,888	Kerosene	Balik Pappan
Shell	442,292	Benzine	Balik Pappan
Shell	419,096	Benzine	Balik Pappan
Shell	2,486,850	Crude	Curacao
Shell	2,293,312	Crude	Curacao
Lubes and Fuel Oils	1,356,000	Lubes	Batoum
Davies & Newman	1,303,375	Gasoline	Beaumont
Brit. Pet.	739,200	Kerosene	Houston
Brit. Mex.	1,837,500	Fuel Oil	Batoum
Nat'l Benzole	2,392,292	Gasoline	San Pedro
C. T. Bowring	706,605	Kerosene	Constanza
At Liverpool—			
Anglo-Mex	466,945	Fuel Oil	Tampico
United Caucasian	302,500	Kerosene	Beaumont
Vacuum Oil	861,750	Lubes	New York
At Hull—			
Anglo Amer	1,499,870	Kerosene	New York
Anglo Amer	2,859,300	Gasoline	New York
Shell	713,375	Benzine	Balik Pappan
Shell	276,543	Benzine	Balik Pappan
At Manchester—			
Anglo-Amer	823,730	Fuel Oil	New York

Crude Oil Prices All Fields

EASTERN FIELDS

	1925 May 11	1924 High	1924 Low	1923 High	1923 Low
Bradford Allegany	$3.40	Jan.30..$4.50	Aug.21..$2.85	Feb.15..$4.25	Nov.13..$2.60
Gaines	3.15	Jan.30.. 4.00	Aug.5... 2.75	Feb.15.. 4.00	Nov.13.. 2.35
Other Penna	3.30				
West Virginia	3.25				
Penna. grade in Ohio	3.15				
Cabell	2.05	Mar.10.. 2.20	Jan.1and Aug.5. 1.45	Feb.15.. 2.76	Nov.13.. 1.20
Corning	1.95	Mar.10.. 2.15	Jan.1... 1.40	Feb.15.. 2.30	Nov.14.. 1.25
Somerset	2.15	Mar.10.. 2.30	Jan.1... 1.40	Feb.15.. 2.55	Nov.13.. 1.15
Somerset Light	2.30	Mar.10.. 2.50	Jan.1... 1.55	Feb.15.. 2.80	Nov.13.. 1.30
Ragland	1.30	Mar.10.. 1.10	Jan.1... .85	Feb.15.. 1.10	July 10.. .75

Somerset oil run prior to Oct. 1, 1925, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS

Wooster	$2.15	Mar.8...$2.15	Jan.1,and Sept.18 $1.40	Feb.19..$2.50	Nov.9...$1.25
Lima	2.23	Mar.8... 2.28	Jan.1... 1.53	Feb.19.. 2.58	Nov.9... 1.45
Indiana	2.03	Mar.8... 2.08	Jan.1... 1.33	Feb.19.. 2.38	Nov.9... 1.23
Princeton	2.02	Mar.8... 2.07	Jan.1... 1.32	Feb.19.. 2.37	Nov.8... 1.22
Illinois	2.02	Mar.8... 2.07	Jan.1... 1.32	Feb.19.. 2.37	Nov.8... 1.22
Plymouth	1.55	Mar.8... 1.45	Jan.1... .70	Feb.19.. 1.75	Nov.9... .60
Canadian Petrolia	2.63	Mar.8... 2.68	Jan.1... 1.93	Feb.19.. 2.98	Nov.9... 1.88

MID-CONTINENT AND NORTH TEXAS FIELDS

Below 30	$1.35	Currie	$2.00
30-32.9	1.55	Mexia	2.00
33-35.9	1.80	Powell	2.00
36-38.9	2.00		
39-41.9	2.25		
42 and above	2.35		

Humble's Prices
Moran Field Texas

Below 30	$1.35	36 and above	$2.00
30-32.9	1.55	Wortham	2.00
33-35.9	1.80	Richland	2.00

Magnolia's Price Schedule
North and North-Central Texas, Okla., and Kan.

Below 28	$1.00	Corsicana, light, Powell, Mexia	$2.00
28-30.9	1.35	Corsicana, heavy	1.00
31-32.9	1.55	Thrall	1.00
33-35.9	1.80	*Magnolia pays $2 and $2.25 respectively for these two grades in Okla. and Kan.	
*36-38.9	1.95		
*39-41.9	2.10		
42 and above	2.35		

NORTH LOUISIANA—ARKANSAS FIELDS

Caddo, 38 degrees and above	$2.05	do 32 to 34.9	1.50
do 35 to 37.9	1.95	De Soto	1.90
do 32 to 34.9	1.85	Crichton	1.70
do below 32	1.70	Bellevue	1.75
Homer, 35 and above	1.80	Smackover 27 and above	1.30
do 33 to 34.9	1.70	do 26-26.9	1.25
do 31 to 32.9	1.60	do 25-25.9	1.20
do below 31	1.45	do 24-24.9	1.10
Haynesville, 33 and above	1.70	do above 24	.60
do below 33	1.60	Stephens 26 and above	1.45
El Dorado 33 and above	1.70	do below 26	1.25
do below 33	1.60	Cotton Valley	1.00
Bull Bayou, 38 and above	1.85		
do 35 to 37.9	1.70		

GULF COASTAL FIELDS

	1925 May 11	1924 High	1924 Low	1923 High	1923 Low
Spindletop	$1.75	Apr.1...$2.00	Jan.1 and Sept.17.....$1.25	Mar.15..$1.75	Aug.18..$1.00
Goose Creek "A"	1.75	Apr.1...$2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Goose Creek "B"	1.50	Apr.1... 1.70	Sept.17..... 1.05	Mar.15.. 1.50	Aug.18.. 1.00
Sour Lake	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Humble	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Hull "A"	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Hull "B"	1.50	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00	Mar.15.. 1.50	Jan.1... .80
West Columbia	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Edgerly	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Vinton	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Jennings	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Saratoga	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25	Mar.15.. 1.75	Aug.18.. 1.00
Orange "A"	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25		
Orange "B"	1.50	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00		
Pierce Junction "A"	1.75	Apr.1... 2.00	Jan.1 and Sept.17..... 1.25		
Pierce Junction "B"	1.50	Apr.1... 1.70	Jan.1 and Sept.17..... 1.00		

WYOMING FIELDS

Elk Basin	$2.15	Mar.10..$1.65	Jan.1...$ .95	Feb.17..$2.10	Nov.9...$ .95
Grass Creek	2.15	Mar.10.. 1.95	Jan.1... .95	Feb.17.. 2.10	Nov.9... .95
Big Muddy	2.00	Mar.10.. 1.50	Jan. 1... .45	Feb.17.. 1.65	Nov.9... .45
Salt Creek	1.60	Mar.10.. 1.60	Jan.1... .60	Feb.17.. 1.65	Nov.9... .60
Lance Creek	2.15	Mar.10.. 1.90	Jan.1... .90	Feb.17.. 2.10	Nov.9... .80
Rock Creek	2.00	Mar.10.. 1.70	Jan.1... .60	Feb.17.. 1.75	Nov.9... .60
Osage	2.15	Mar.10.. 1.90	Jan.1... .90	Feb.17.. 2.10	Nov.9... .80
Cat Creek, Mont	2.15	Mar.10.. 1.95	Jan.1... .95	Feb.17.. 2.10	Nov.9... .95
Sunburst, Mont	1.20	Mar.10.. 1.05	Jan.1.... 70	Feb.17.. 1.50	June 6.. .70

CALIFORNIA

14-19.9	$1.25	25-25.9	$1.44	30-30.9	$1.64
20-20.9	1.27	26-26.9	1.48	31-31.9	1.68
21-21.9	1.30	27-27.9	1.52	32-32.9	1.72
22-22.9	1.33	28-28.9	1.56	33-33.9	1.76
23-23.9	1.36	29-29.9	1.60	34-34.9	1.80
24-24.9	1.40			35 and above	1.85

ROSECRANS FIELD

36-36.9	$1.91
and for each increase of one full degree above 36° gravity, up to and including 41.9° gravity, 8 cents per barrel additional	
42 and above	$2.40

Fords Sell in Detroit At $12.40 Down

CLEVELAND, May 9.—The Ford Motor Co. is trying a purchase plan in Detroit which is greatly increasing the sale of cars because of the low down payment and small weekly installments, these being as low as $12.40 down and $5 a week. According to Detroit advices extension of the plan to other cities is held in abeyance because of the factory's inability to make deliveries on the scale that would be necessary.

During the first three days the plan was used in Detroit 4000 cars were sold under it. Volume of business since that time has not been announced but it is reported dealers are well pleased with it.

Financing is being handled by the Detroit Discount Corp. under details worked out between it, and the Ford company and dealer organization. The prospective buyer is required to get two indorsers who are held jointly liable with the purchaser for the deferred payments. Down payments and weekly payments for the leading models are as follow:

Model	Down Payment	Weekly
Roadster	$12.40	$5
Roadster with starter	18.80	7
Touring car	12.60	5
Touring with starter	17.00	7
Coupe	20.80	10
Tudor sedan	40.20	12
Fordor sedan	83.40	13

The basis of the payment is the delivered price in Detroit which includes war tax and handling charges, and which is approximately 10 per cent higher than the list price for the lower priced cars and less than that amount for the higher priced.

Under the schedule the car is not fully paid for in one year but the notes may be renewed. The unpaid balances range from $24 to $90 but the backers of the plan expect the purchaser to pay off that during the year by slightly increased weekly payments.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles.)

	May 11	May 4
Gasoline, U. S. Motor— 54°—56°	10½-11½	10½-11½
Gasoline—U. S. Motor blends and special cuts.	11½-12½	11 -12½
Gas Oil, 24°—30°B per bbl.	$1.85	$1.85
Diesel Oil, 27°B-plus per bbl.	$1.85	$1.85
Bunker Oil,14°—18°B per bbl.	$1.60	$1.60
Fuel Oil,14°—18°B per bbl.	$1.60	$1.60
Kerosene, W.W.40°—42° B per gal., 125-150 flash test	05 -06½	05 -06½
Cased Goods		
Gasoline, U. S. Motor	$2.70	$2.70
Kerosene, W.W.40°—42° B per case, flash test 125-150	$1.55-1.65	$1.55-1.65

Refiners', Compounders' Supplies

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	May 11	May 4
Soda Ash light 58% bags cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums cwt.	- 1.70	- 1.70
Sal Soda wks cwt.	1.10- 1.25	1.10- 1.25
Caustic Soda 76% solid. cwt.	- 3.10	- 3.10
Chloride of Lime cwt. works	1.80- 1.90	1.80- 1.90
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point per ton	9.50-11.00	9.50-11.00

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot gal.	- 1.05	- 1.03
May-August	- 1.05	- 1.03
Tanks, spot	- .99	- .97
Less carload spot gal.	- 1.08	- 1.06
Less than 5 bbls. spot	- 1.10	- 1.08
Boiled tank spot	- 1.02	- 1.00
Boiled, carloads spot gal.	- 1.08	- 1.06
*Soya Bean spot, tanks lb.	- .12	- .12
Animal Oils—		
English Degras lb.	-.05	-.04¾
Domestic Degras, bbls., carloads lb.	-.04½	-.04¼
*Horse lb.	-.09½	-.09½
Oleic Acid—		
Dist Bbls. lb.	-.11½	-.11¼
Saponified. Bbls. lb.	-.11¼	-.11¼
Lard Oils—		
Prime		
Winter Strained.. 1 to 1½ffa.40‡45c.t.lb.	.17½	.19
Extra Winter Strained.. 2 to 4½ffa.40/45c.t.lb.	.16¾	.18¼
Extra 4 to 5 ffa.40/45c.t.lb.	.14¾	.15¼
Extra No. 1. 7 to 10 ffa.40/50c.t.lb.	.12½	.13¼
No. 1 15 to 18 ffa.40/45c.t.lb.	.12¼	.12¾
No. 2 22 to 28 ffa.40/45c.t.lb.	.12	.12¼
Prime Edible Tallow under 1¾ ffa. 40/45c.t.N. Y. lb.	-.10½	-.10¾
Tallow acidless lb.	-.13¼	-.13¾
Lard Stearine lb.	-.19	-.19
Oleo Stearine lb.	-.12¾	-.12¼
Neatsfoot Oil—		
Pure bbls.-lb.	.14½	.14½
Extra do lb.	.12½	.13¼
No. 1 do lb.	.12¾	.12¾
Cold pressed lb.	.17½	.17¾
Fish Oils—		
Menhaden Oil		
Light pressed gal.	-.78	-.78
White gal.	-.83	-.83
Yellow bleached gal.	-.81	-.81
*Herring tank cars coast gal.	-.40	-.40
Whale, extra winter bleached gal.	-.84	-.84
Seal gal.		Nominal
Naval Stores—		
Turpentine, N. Y. gal.	1.00	.97
Turpentine† gal.	.93	.90
Rosin, B. N. Y. Bbl.	8.50	8.45
Rosin F. N. Y. Bbl.	9.90	9.40
Rosin B† Bbl.	7.00	6.85
Rosin F† Bbl.	8.40	8.00
Rosin Oil 1st run gal.	.51	.51
Rosin Oil 2nd run gal.	.56	.56
Pine Tar—		
Kiln Burnt Bbl.	14.00	14.00
Retort Bbl.	14.00	14.00

†Savannah, Ga. market.
*Nominal.

Predict Higher Prices For Sulfuric Acid

Special Correspondent

NEW YORK, May 11.—Following is a review of the markets for oils and supplies used in compounding and refining:

Caustic Soda—Contract withdrawals are heavier. Prices firmer. No changes expected during immediate future.

Bleaching Powder—Fresh buying orders more numerous. Prices steady. Consumers not buying ahead, but from month to month.

Sulfuric Acid—Firmer. Heavy contract withdrawals keep stocks down. Price advances expected soon.

Soda Ash—Production gaining, but consumption also increasing steadily. Prices unchanged. More interest in futures. Export demand slightly better.

Fish Oils—Quiet. Crude menhaden oil scarce and entirely nominal at 55 to 60 cents, gallon, tank cars, factory. Light pressed moving more freely at 78 cents. Yellow bleached steady at 81 cents. White bleached dull. Whale oil marking time.

Animal Oils—Easier. Prime lard demand lagging. Neatsfoot oil sluggish and slightly lower. Domestic degras up ¼ cent, as stocks wane and demand increases. Tallow oils marking time. Oleo stearine easier. Oleic acids in slightly better demand.

Linseed Oil—Steady, but trading light. Leading refiners quoting $1.03 a gallon, carlots, May-August delivery. Linoleum and paint makers buying hand-to-mouth. Large contract movement keeping prices from declining.

Naval Stores—Slightly firmer. Rosins still advancing as demand increases. Spot stocks very small. Paper manufacturers purchasing more heavily. Export demand is more spirited. Turpentine quiet, easy. Rosin oils in better demand and stocks are well held. Tar and pitch quiet but firm.

Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

14514.—**Paraffin wax,** Santiago, Chile, agency.

14559.—**Paraffin wax and oils,** Vienna, Austria, purchase and agency.

14702.—**Lubricating oils and greases,** Trieste, Italy, agency.

14751.—**Mineral oils,** Alexandria, Egypt, agency.

14774.—**Lubricating oils,** London, England, agency.

14803.—**Lubricating oils, cylinder oils, petrolatum and white oils,** Hamburg, Germany, purchase.

14807.—**Gasoline and other products,** Paris, purchase and agency.

OIL STOCKS AND FINANCES

High Taxes and Larger Reserves Reduce Pure Oil Net Profits

Staff Special

CLEVELAND, May 9

PURE OIL CO. for its fiscal year ended March 31, reports an increase of $17,000,000 or 19 per cent in gross earnings over gross for the previous fiscal year and net operating income almost $1,000,000 greater, but increased taxes and larger reserves for depreciation and depletion resulted in lower net profits. After all charges and dividends on the preferred stock, net earnings were equivalent to $2,84 a share on the common stock compared with $3.21 a share in the preceding year.

The report does not include any income from the Humphreys-Boyd Oil Co. which was purchased shortly after the close of the Pure's fiscal year. Production of that company in the Wortham, Texas pool, is close to the holdings of the Pure at Mexia and Powell.

In a letter to the stockholders now numbering between 39,000 and 40,000, President Henry M. Dawes says:

"The properties of the company are particularly well balanced for the operation of a complete cycle in the oil industry, from well to consumer. While there has been a condition of over-production of crude oil during a good portion of the past year, the Pure Oil Co., owing to the fact that it is well fortified in all its departments, did not suffer from any temporary disturbance of the proper balance in the margin between the producing, refining or marketing phases of the business. Its margin of operations is dependent upon the one factor of difference between the cost of production and the price to the ultimate consumer."

Mr. Dawes points out that all of the properties of the company are in satisfactory operating condition and no unusual or major developments or constructions seem, at present, to be required.

The balance sheet as of March 31, shows current assets totaling $34,589,460 and current liabilities of $12,757,686, leaving net working capital of $21,821,774, or slightly more than the company's entire funded debt, which was reduced more than $7,000,000 during the year.

Inventory accounts show an increase of approximately $1,400,000 in value of finished oils and $1,300,000 in crude oil. Amounts of finished oils and crude were not stated.

Consolidated income accounts of Pure Oil Co. and subsidiaries for last five fiscal years, each ended March 31, follow:

	1925	1924	1923	1922	1921
Gross earnings	$104,397,303	$ 87,432,424	$ 69,153,736	$ 60,722,417	$ 72,977,460
Expenses, taxes, etc	84,441,312	68,250,558	57,693,198	51,779,290	60,629,144
Operating income	$ 19,955,991	$ 19,181,866	$ 11,460,538	$ 8,943,127	$ 12,348,316
Adjustments	771,577	989,492	861,969	1,276,056	.....
Interest, U. S. taxes, etc	1,926,102	906,259	247,672	957,100	987,569
Depreciation, Depletion	7,477,029	6,600,106	5,368,477	6,194,232	2,724,697
Net profits	$ 9,781,283	$ 10,686,009	$ 4,982,420	$ 515,739	$ 8,636,050
Preferred dividends	1,668,890	1,667,693	1,427,754	1,201,180	735,622
Common dividends	4,263,591	4,544,885	5,162,839	4,034,940	4,662,500
Surplus	$ 3,848,802	$ 4,473,431	*$ 1,608,173	*$ 4,810,381	$ 3,237,928

*Deficit.

Consolidated balance sheets of Pure Oil Co. and subsidiaries as of March 31 compare:

	1925	1924	1923	1922	1921
ASSETS					
Plant, equipment, etc	$178,246,438	$149,210,263	$126,193,898	*$ 98,876,552	*$101,811,872
Other investments	2,987,927	20,583,685	19,310,460	16,519,016	11,007,474
Stock in treasury	316,000	316,000	316,000	316,000	997,900
Cash	3,198,614	8,521,451	3,977,275	4,434,281	2,679,800
Marketable securities	19,331	69,002	7,192,882	7,168,136	394,724
Accounts receivable	5,192,619	5,330,962	5,477,714	4,621,308	4,238,734
Notes, acceptances	456,427	3,165,479	3,887,860	687,272	398,439
Oil, finished	8,055,506	6,661,416	7,836,759	7,401,699	8,412,764
Oil, crude	14,088,371	12,748,959	1,527,467	2,787,600	2,138,175
Materials, supplies	3,518,591	2,901,898	2,255,852	2,016,521	2,541,975
Deferred charges	1,670,123	1,981,742	1,453,228	1,149,170	1,208,185
Total	$217,809,948	$211,490,856	$179,429,394	$145,977,555	$135,830,042
LIABILITIES					
Common stock	$ 71,504,900	$ 70,091,425	$ 64,679,350	$ 52,882,625	$ 49,392,600
Preferred stock	23,000,000	23,000,000	23,000,000	20,000,000	14,869,800
Moore Oil preferred	800,000	800,000	800,000	800,000	800,000
Funded debt	20,813,500	28,055,000	4,026,000	11,059,000	13,069,000
Accounts payable	2,841,778	2,297,450	2,557,741	2,234,859	1,399,113
Notes payable	9,100,000	7,375,100	11,392,500	11,565,360	1,300,000
Accrued taxes	460,668	283,310	391,086	384,020	2,240,203
Accrued interest	355,240	417,544	72,324	259,689	266,395
Consumers' deposits	.....	.....	302,779	286,440	286,080
Depreciation, depletion res	35,585,094	29,698,916	27,340,478	.....	.....
Other reserves	220,227	192,273	60,827	91,080	55,093
Surplus	53,128,541	49,279,738	44,806,309	46,414,482	52,151,758
Total	$217,809,948	$211,490,856	$179,429,394	$145,977,555	$135,836,042

*Less depreciation.

Cleveland Stock Market

	Par	May 8 Bid	Asked	Last Sale
Canfield Oil Co.	$100	111	125	125
do pfd	100	95½	100	95
Fred G. Clark Co.	10	.....	4⅛	4⅛
National Refin. Co.	25	38	40	38
do pfd	100	.....	.....	.....
Paragon Refin. Co.	25	8½	9	9½
do pfd	100	66	70	66

Financial Notes

Lion Oil Refining Co.—Reports net profits of $335,698 in first quarter of 1925 after all charges except depletion. The company reports running 8000 barrels of Smackover crude daily at its plant at El Dorado, and having production exceeding 12,000 barrels daily.

Rio Bravo Oil Co.—John R. Suman, president of the Houston Geological Society, has been elected vice-president to succeed Edwin T. Dumble.

Shaffer Oil & Refining Co.—$76,666.67 to be deposited with trustees June 1 to purchase or redeem at a price not exceeding the redemption price then in effect outstanding 6 per cent first mortgage bonds.

Crescent Pipe Line Co.—C. T. Vandergrift elected a director to succeed Charles Schumaker. L. E. Lockwood, former vice-president elected president to succeed Mr. Schumaker, and Mr. Vandergrift elected vice-president. J. A. Toomey re-elected secretary and treasurer.

Chesebrough Mfg. Co.—Hunter S. Marston elected director to succeed John Lunny, Jr. Other directors and all officers re-elected.

Transactions In Oil Shares on New York Stock Exchange

1924 High	1924 Low	1925 High	1925 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended May 9 Sales	First	High	Low	Last	Ch'ge
48	25	66¼	48	(sh) 200,000	N.P.	American Republics	.....	.....	.....	.....	.....	.....	.....	.....
34½	27½	39½	32	$ 56,000,000	$25	Associated Oil	37½cQ	Apr. 25, 25	11600	36¼	36⅝	35½	36	— ½
140½	78½	117½	95½	50,000,000	100	Atlantic Refining	.....	June 16, 24	7,100	105	108¾	105	106⅞	+1⅞
118	108	115¾	113½	20,000,000	100	do pfd	$1¾Q	May 1, 25	200	115¼	115¼	115¼	115¼	+ ¼
23½	14	30	21	13,000,000	25	Barnsdall Corp. A	.....	Apr. 30, 21	8,500	22	23½	22	22⅜	+ ⅜
17½	10	28	16¼	3,713,270	25	do B	.....	Apr. 30, 21	300	17½	17⅞	17½	17⅞	+ ⅜
4¼	1	2¾	⅛ (sh)	150,000	N.P.	Caddo Central O. & R.	.....	.....	8,000	⅝	¾	⅝	½	— ⅛
29¼	19⅝	32⅞	23⅞	$ 17,377,000	$25	California Petroleum	43¾cQ	Mar. 2, 25	26,600	29⅜	30½	29	29½	— ¼
107	92½	116¾	100	11,955,100	100	do pfd	$1¾Q	Apr. 1, 25	900	112⅞	114	112½	112½	— ½
63¾	51¾	63¾	42⅜	19,832,000	100	General Asphalt Co.	.....	.....	19,300	51¼	53¾	51	51¼	— ⅜
100	71½	100	86½	7,416,000	100	do pfd	$1¾Q	Mar. 2, 25	300	90⅞	94	90⅞	94	+3
45	38⅜	57⅛	42	28,866,650	25	General Petroleum	50cQ	Mar. 16, 25	36,300	51⅞	53⅛	51½	52	+ ⅛
82½	61	85	59	25,000,000	100	Houston Oil Co.	.....	.....	6,400	61	63	60¾	63	+2½
16½	5¾	33½	13½ (sh)	450,000	N.P.	Independent Oil & Gas	25cQ	Mar. 31, 25	61,400	25¾	27⅜	25⅛	26¾	+1¾
7⅛	3¾	10⅜	5½	$ 7,830,450	10	Indian Refining Co.	.....	Dec. 15, 20	4,700	8⅛	8⅜	7⅝	8	— ⅜
75	60	95	77	2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
1	¼	1¼	⅜	1,682,280	$10	Kansas & Gulf Corp.	.....	.....	100	⅜	⅜	⅜	⅜	0
.....	.....	25¾	14¾ (sh)	996,302	N.P.	Louisiana Oil Refining	.....	.....	19,300	17	18⅛	17	17¼	+ ⅜
37½	24⅝	35½	25¼ (sh)	330,000	N.P.	Maracaibo Oil	.....	.....	3,800	26⅞	27¾	26¾	27	+ ¼
42	29	46¼	32⅝ (sh)	1,649,566	N.P.	Marland Oil Co.	.....	July 1, 23	11,200	38⅜	40⅞	38¼	40⅜	+2⅜
190	190	250	225	$ 45,942,800	$100	Mexican Petroleum Co.	$3Q	Apr. 20, 25	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	12,000,000	$100	do pfd	$2Q	Apr. 20, 25	.....	.....	.....	.....	.....	.....
25¾	14¾	22¾	11½ (sh)	945,989	N.P.	Mexican Seaboard Oil	.....	Nov. 15, 24	10,500	17⅝	17⅞	16½	16¾	— ⅝
40¼	22⅜	35⅜	26 (sh)	1,357,800	N.P.	Mid-Continent Petroleum (Cosden)	.....	Aug. 1, 23	21,800	29	29⅜	28¾	28⅝	— ⅜
95	80	90¾	88	$ 6,998,000	$100	do pfd	$1¾Q	Mar. 2, 25	300	87⅛	87¾	87⅛	87¾	+ ¾
6⅛	1	1⅜	⅝	$ 29,800,220	$10	Middle States Oil Corp.	.....	July 1, 25	2,600	¾	¾	⅝	¾	0
58¼	45	65¼	52¼ (sh)	3,500,000	N.P.	Pacific Oil Co.	$1S.A.	Jan. 20, 25	48,000	58	59¼	57	57	— ¾
65	44¾	83⅞	64	$ 48,292,450	$50	Pan American P. & T.	$1.50Q	Apr. 20, 25	20,600	76	78⅜	75¾	77½	+2
64¾	41¾	84½	63⅜	89,269,400	50	do Class B	$1.50Q	Apr. 20, 25	17,300	76⅜	79¼	76⅛	77¼	+1
4⅜	1⅜	5⅜	3 (sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	1,600	4	4	3½	3½	— ⅜
42½	29	60½	43	$ 3,855,770	$100	do pfd	.....	July 2, 23	.....	.....	.....	.....	.....	.....
42½	28⅜	46⅜	36¾ (sh)	1,849,904	N.P.	Phillips Petroleum	50cQ	Apr. 1, 25	55,800	40¼	40⅞	39½	40¼	+ ⅜
4½	1⅜	3⅝	1¾	$ 29,622,925	$25	Pierce Oil Corp.	.....	.....	5,100	1¾	2	1¾	2	+ ¼
36	20	40	25⅜	15,000,000	100	do pfd	.....	Feb. 1, 22	200	31¾	32	31¾	32	—1
5¾	4⅜	8¼	5¾ (sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	25,700	6⅜	7	6½	6⅝	+ ⅛
48½	22¾	32⅜	22	$ 11,467,850	50	Producers & Refiners	.....	Sept. 15, 23	1,800	23⅞	25	23½	24¼	+ ¼
47½	42	47¾	43½	2,845,350	50	do pfd	87½cQ	May 1, 25	100	44½	44½	44½	44½	0
30¼	20	33¾	25⅜	71,499,850	25	Pure Oil Co.	37½cQ	Mar. 2, 25	29,300	27	28⅞	26¾	27¾	+1¼
105½	92	106½	103	13,000,000	100	do 8% pfd	$2Q	Apr. 1, 25	200	103½	103½	103½	103½	+ ½
59½	40⅜	57⅜	48¼ (sh)	817,193	13.40	Royal Dutch, N. Y. shares	$3.18½	Aug. 12, 24	16,000	49⅞	50⅝	49¾	49⅞	— ⅛
42	33	45¾	40⅜ (sh)	113,608	£2	Shell Transport & T.	95c	Jan. 24, 25	300	40¼	40½	39⅞	40½	—1
22½	15¾	28⅜	22½ (sh)	10,000,000	N.P.	Shell Union Oil Corp.	25cQ	Mar. 31, 25	24,600	24⅜	24⅞	24⅛	24⅝	+ ½
99½	91½	101½	99½	$ 20,000,000	$100	do pfd	$1½Q	May 15, 25	600	100¾	101	100⅜	101	+1½
24	10⅜	26¾	19½	7,205,740	10	Simms Petroleum Co.	50Q	Jan. 2, 25	24,800	23⅜	24	22⅞	23¼	0
27⅜	15	24⅞	17	(sh) 4,482,225	N.P.	Sinclair Consolidated	.....	May 31, 24	39,800	19⅜	20¼	19	19½	0
90	75	94½	78¾	$ 18,541,100	$100	do pfd	$2Q	May 15, 25	300	83	83	82½	82½	— ½
29	17⅛	30½	21¾	20,856,590	25	Skelly Oil Co.	.....	.....	48,600	25	26⅞	24⅝	26½	+1½
68½	55½	67¼	56¾	235,324,250	25	S. O. California	50cQ	Mar. 16, 25	13,900	59	59½	58¼	58⅝	0
42¾	33	47½	38⅜	507,856,025	25	S. O. New Jersey	25cQ	Mar. 16, 25	65,200	42⅝	43⅞	42	43¼	+1⅜
119½	115¾	119	116¾	199,972,900	100	do pfd	$1¾Q	Mar. 16, 25	3,700	118	118½	118	118½	+ ⅜
8⅛	2⅜	6¼	4 (sh)	1,116,268	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	3,100	4	4½	4	4⅜	+ ⅜
45⅜	37¾	49	42¾	$ 164,450,000	$25	The Texas Co.	75cQ	Mar. 31, 25	15,700	44⅞	45½	44½	45	+ ⅜
15¼	8	23⅜	11½	8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	27,600	15	15¾	14⅝	14¾	0
151	116½	152	122	50,442,900	100	Tide Water Oil Co.	$1Q	Mar. 31, 25	1,600	137	140	135	138	+1¾
6¼	3¾	5½	3⅞ (sh)	3,232,529	N.P.	Transcontinental Oil Co.	.....	.....	156,900	4⅜	5⅞	4	5¾	+1¾
39	35	43¾	36⅜	$ 40,480,800	$25	Union Oil of California	45cQ	May 10, 25	16,900	36⅞	38⅝	36¾	37½	+ ¾
132⅞	94	128¼	118½	18,115,000	$100	Union Tank Car Co.	$1¼W	Mar. 2, 25	400	123½	124	123½	124	+ ⅛
116¾	106¼	117⅝	115¾	12,000,000	100	do pfd	$1¾Q	Mar. 2, 25	300	116⅝	*117⅜	116⅝	116¾	+ ⅛
29¾	23⅛	31¾	25¾ (sh)	460,000	N.P.	White Eagle Oil & Ref.	50cQ	Apr. 20, 25	1,600	26½	27⅛	26⅜	27⅛	+⅞

*New High †New Low xEx-Dividend Total Sales 928,800

Standard Oil Stock Traded In New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended May 8 Sales	First	High	Low	Last	Ch'ge
18¾	14⅜	26¾	18	£ 3,000,000	£1	Anglo American	45cS.A.	Nov. 15, 24	10,100	25	25½	24¾	25	+ ⅜
4⅞	2	4	2⅝ (sh)	500,000	N.P.	Atlantic Lobos	.....	.....	300	3	3	2¾	3	— ⅛
16	5	10¾	6⅞	$ 10,000,000	$10	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
265	155	239	206½	1,000,000	$100	Borne-Scrymser	†$4S.A.	Apr. 15, 24	.....	.....	.....	.....	.....	.....
85½	51	72	60	10,000,000	50	Buckeye Pipe Line	$1Q	Mar. 14, 25	390	60	60	58½	59	—1
52½	47⅜	70	48½	3,000,000	25	Chesebrough Mfg. Co.	62½cQ	Mar. 31, 25	3,100	65⅝	66⅝	62½	62½	—2
115	112	114	110	1,000,000	100	do pfd	$1¾Q	Mar. 31, 25	20	114	114	114	114	0
.....	.....	31⅝	21⅞	30,208,590	$10	Continental Oil (Maine)	25cQ	Mar. 16, 25	58,200	25	25¾	24¾	25	0
20	11¼	15⅜	10½	1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	100	11	11	11	11	+ ½
149	110¾	150	132	3,000,000	100	Cumberland Pipe Line	$3Q	Mar. 16, 25	310	143½	146	143½	145½	+2½
105	74	98	77⅞	5,000,000	100	Eureka Pipe Line	$1Q	May 1, 25	130	77⅞	78	†77⅞	78	0
69¾	52	65	54	16,000,000	100	Galena Signal Oil	$1Q	Mar. 31, 25	800	54	56	54	55	+1
118	100½	105	100	4,000,000	100	do new pfd	$2Q	Mar. 31, 25	.....	.....	.....	.....	.....	.....
116	110	113	108	2,000,000	100	do old pfd	$2Q	Mar. 31, 25	60	113	*113	108½	113	0
48¾	34½	50⅜	42½	43,750,000	25	Humble Oil & Ref.	50cQ	Apr. 1, 25	19,200	49⅜	* 50½	48⅞	49¾	+ ⅜
161	120	154½	127	20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 30, 24	180	145	145½	143⅛	144	—1
.....	.....	34⅜	27¼	(sh) 6,275,640	N.P.	Imperial New w.i.	25c	Mar. 1, 25	9,300	30	31⅜	29¾	31¼	+1½
100	66	84	70	$5,000,000	50	Indiana Pipe Line	$1Q	May 15, 25	170	71½	73	71	71	0
24¾	16¾	28¾	22½	(sh) 7,118,138	N.P.	International Petroleum	25c	Nov. 29, 24	21,700	24	24¾	24	24⅛	+ ⅜
162	122	159	130½	$ 180,247,100	100	Magnolia Petroleum	1%stk.	Apr. 5, 25	655	136	140	135	140	+6¼
25⅞	20⅝	25½	22	6,362,500	12½	National Transit	50cQ	Mar. 16, 25	200	22¼	22¼	22¼	22¼	0
97	54½	79	64¼	5,000,000	100	New York Transit	75cQ	Apr. 15, 25	.....	.....	.....	.....	.....	.....
107½	72	88	81½	4,000,000	100	Northern Pipe Line	$5S.A.	Jan. 1, 25	20	82½	82½	82½	82½	—1¼
79½	55	75	62¼	60,000,000	25	Ohio Oil Co.	50cQ	Mar. 31, 25	2,700	64	66	64	66	+2
48	27	44½	35¾	10,000,000	25	Penn.-Mex. Fuel	.....	.....	100	36	36	36	36	+1½
54¾	49½	65½	50¼	60,000,000	25	Prairie O. & G.	50cQ	Apr. 30, 25	6,500	55	55¾	53½	54	— ⅞
111	100	126	106	81,000,000	100	Prairie Pipe Line	$2Q	Apr. 30, 25	1,790	119½	122½	119	119	0
230	175	259	200	4,000,000	100	Solar Refining Co.	$5S.A.	Dec. 20, 24	90	215	217	213	213	—1½
100	80½	103	81	10,000,000	100	Southern Pipe Line Co.	$1Q	Mar. 1, 25	190	81⅝	82	81⅝	81¾	+ ⅛
171	117	197	139	20,000,000	100	South Penn Oil Co.	.....	Sept. 30, 22	1,130	169	175	167	167	—2
89	68	84	65	3,500,000	100	Southwest Pa. Pipe Lines	$1Q	Apr. 1, 25	10	67½	67½	67½	67½	.....
68⅛	54¼	70	59⅝	223,756,258	25	S. O. Indiana	62½cQ	Mar. 16, 25	57,200	63	64¾	63¼	64¾	+1⅝
50¼	32½	46	30½	8,000,000	25	S. O. Kansas	.....	June 16, 24	4,000	31	34⅛	30¾	33¾	+3¼
121¼	101	124¾	114¾	16,864,434	25	S. O. Kentucky	$1Q	Mar. 31, 25	3,400	117⅝	118⅞	117⅝	118⅝	+ ¾
262	198	270	241	3,000,000	100	S. O. Nebraska	$5S.A.	Dec. 20, 24	40	241	245	†241	245	+3
48	37¾	48⅝	41	225,324,650	25	S. O. New York	35cQ	Mar. 16, 25	16,700	42⅝	44½	42⅝	44	+1⅜
277½	275	369	338	14,000,000	100	S. O. Ohio	$2½Q	Apr. 1, 25	110	347	348	346	348	+1
336	115	123	117½	7,000,000	100	do pfd	$1¾Q	Mar. 2, 25	80	120	120	118	120	.....
81	20	27	16	1,722,931	25	Swan & Finch	.....	Nov. 1, 19	90	17½	17½	17⅜	17½	+ ½
88¼	56½	96¾	80⅝	61,523,075	25	Vacuum Oil Co.	50cQ	Mar. 20, 25	8,800	85⅞	89½	85⅞	88¾	+2¾
30	25	30½	30	100,000	10	Washington Oil Co.	.....	Jan. 31, 22	.....	.....	.....	.....	.....	.....

†Borne Scrymser $2 extra April 15

OIL DIVIDENDS

		Amount Payable	Stock of Record
June 1	May 15	Cities Service m.	½%
June 1	May 15	do stock	½%
June 1	May 15	do pfd & pfd B m.	½%
Apr. 30	Apr. 27	International Pet. s.a.	25c
		Mexican Eagle	
April 30	.....	1st pfd. s.a.	3½%
May 15	May 1	National Ref'g q.	1½%
May 21	May 16	Penn Mex Fuel init.	50c
July 1	June 15	Producers Oil	5c
May 15	Apr. 30	do pfd. q.	2%
June 1	May 10	Pure Oil q.	37½c
May 15	May 1	Shell Union pfd.	$1.50
June 1	May 15	Southern P. L. q.	$1
June 15	May 18	S. O. California q.	50c
June 1	May 20	Calif. Pet. q.	43¾c
July 1	June 20	do pfd q.	$1.75
June 15	May 16	Continental q.	25c
June 1	May 15	Imperial Oil q.	25c
		Mid-Cont. Pet. pfd	
June 1	May 15	(Cosden) q.	$1.75
July 1	June 5	Northern P. L. s.a.	$3
July 1	June 15	Simms Pet. q.	50c
June 15	May 16	S.O. Indiana q.	62½c
June 20	May 20	S.O. Nebraska s.a.	$5
June 15	May 18	S.O. New York q.	35c
June 29	May 29	Vacuum Oil q.	50c
June 29	May 29	do extra	50c

UNIONTOWN, Pa.—The Rogers Gasoline Co., Inc., has just added a 22,000 gallon tank to its storage capacity according to Harry W. Cohen, secretary and treasurer.

* * *

WICHITA, Kan.—Tingle Oil Co. of Kansas City, Mo., distributor of Waverly products, has added storage tanks to take care of substitute turpentine trade. Mr. Tingle reports a large trade on Waverly substitute, according to E. R. L. Boyd, district manager of Waverly Oil Works Co. at Wichita.

SERVICE IN OIL SECURITIES

We are prepared to furnish information regarding Standard Oil and other oil stocks and to give most efficient service to orders in oil securities.

CARL H. PFORZHEIMER & CO.

Specialists in Standard Oil and Miscellaneous oil securities

25 Broad St. New York

New York Curb Bonds

Week Ended May 8

	High	Low	Last	Ch'ge
Cities Serv. 7s B	163	163	163	—1
do 7s C	118½	117	117½	+ ½
do 7s D	102¾	100½	101⅞	— ⅛
Galena S O 7s	104¾	104¾	104¾	— ¼
Gen. Pet. 6s	101⅝	101½	101½	0
Gulf Oil 5s	99	98⅛	98⅛	— ⅛
do 5½s '27	101½	101½	101½	+ ⅛
Pennok Oil 6s	100¼	100¼	100¼	+ ⅛
Pure Oil 6½s	101	100	100⅞	+ ⅛
S. O. N. Y. 6½s	107¾	107½	107¾	+ ¼
Sun Oil 5½s	97	96⅜	96¾	+ ¼
Tidal Osage 7s	104	104	104	+ ¼
Trans Cont. Oil 7s w.i.	100	100	100	+ ⅜
Union Oil & Gas 5s	96	96	96	0
Vacuum Oil 7s	106	105⅞	105⅞	— ⅛
Valvoline 7s	104½	104½	104½	—1¼

New York Bonds

Week Ended May 8

	High	Low	Last	Ch'ge
Associated Oil Co. gold 6s	102¾	102¾	102¾	0
Atlantic Ref. debs 5	99¾	99⅛	99¾	+ ½
Barnsdall Corp. 8s	105⅛	105	105⅛	+ ⅛
Calif Pet sf 6½s	103¼	103	103	— ¼
Empire G & F 7½s	103¾	103	103⅜	— ⅜
Gen Asphalt 6s	102½	102½	102½	+ ¼
Humble O. & R. 5½s	100	100	100	+ ¼
Mid-Cont Pet. 6½s	97⅝	95⅜	97½	+ 1⅜
Pan Amer Pet. 6s	113¾	109¾	112¾	+ 2⅜
do 7s	106⅛	105¾	106	0
Prod. & Refs. 8s	110½	110½	110½	+ ¼
Sinclair Con. 7s	92⅝	91⅜	91½	— ¼
do 6s	109⅜	106¾	108	+1¼
do 6½s	87½	86	86	— ¼
Sinclair crude 6s	100⅝	100¼	100¼	— ¼
Sinclair P L sf 5s	85¼	84½	85⅛	— ⅜
Skelly Oil 6½s	111⅞	109	111¼	+2½
Tide Water Oil 6½s	103½	103	103⅛	— ⅜
Union Oil Cal. 6s	103¾	103⅝	103⅝	— ⅛
Union Tank Car 7s	104½	104⅛	104⅛	— ⅜

New York Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions week ended May 8 Sales	First	High	Low	Last	Ch'ge
.....	.....	8	2⅛	....	Amer. Maracaibo	38,400	7¼	* 8	7	7½	0
7	4	8¾	5	10	Ark.Nat.Gas	1,700	6⅜	6½	6⅜	6⅜	— ⅛
6¾	2¾	4½	2¾	25c	Carib.Synd	5,000	4	4⅜	4	4	0
190	132	212	175	100	Cities Service	1,170	178½	183	178	183	+4
.....	.....	37¼	35	....	do new	4,300	36¼	* 37¼	35¾	37¼	+1¼
82¾	67¾	82¾	80¼	100	do pfd	1,300	81⅞	82⅛	81¾	82⅛	+ ⅛
7¾	6¾	7¾	7¾	10	do pfd. B	1,400	7⅜	7¾	7⅜	7¾	.....
19	13¼	21¾	17⅝	10	do Bkrs. Sh	1,400	17¾	18⅛	17¾	17⅝	+ ⅛
10¾	2¼	15⅝	8¼	N.P.	Creole Synd	4,200	13	13	12⅜	12¾	— ⅛
8	1¾	7	4⅜	N.P.	Derby Oil & Ref	.....	.....	.....	.....	.....	.....
34¾	17⅜	27	23	N.P.	do pfd	.....	.....	.....	.....	.....	.....
.60	.12	.25	.18	$5	Federal Oil	.....	.....	.....	.....	.....	.....
.....	.....	3¾	1⅞	N.P.	Gilliland v.t.c.	100	2¼	2¼	2¼	2¼	+ ⅛
.60	.15	.27	.15	$10	Glenrock	1,000	.15	.15	.15	.15	.....
67¾	56	71	63⅝	25	Gulf Oil Corp	2,800	65	67	64½	64⅞	+ ⅛
7	1⅜	5⅞	2¾	N.P.	Kirby Petroleum	1,600	3½	3½	3¼	3½	0
6¾	2¼	7¼	5	N.P.	Lago Petroleum	60,600	6⅜	6¼	5¾	5⅞	— ⅛
4⅞	1⅜	4¾	1¾	N.P.	Marland of Mexico	3,200	4	4¼	3¾	4	+ ⅛
.....	.....	2	1¾	$1	Mountain & Gulf	.....	.....	.....	.....	.....	.....
20¾	16	21¾	18¾	10	Mountain Prod	25,100	20⅜	21½	20⅜	21¼	+ ⅛
14	9½	14¾	11⅞	5	Mutual Oil ctfs	.....	.....	.....	.....	.....	.....
6¼	3½	5¾	3⅝	5	New Bradford Oil	1,500	5⅛	5¼	5⅛	5¼	+ ¼
44	17	24¾	16¾	10	New England Fuel	.....	.....	.....	.....	.....	.....
14	8⅛	10	8¼	25	New York Oil	100	9	9	9	9	— ¼
33¾	29¾	33¾	31¾	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
6	.70	1¾	1	N.P.	Peer Oil Corp	500	1	1⅛	1	1	— ⅛
18¼	12¾	25	16	10	Pennok Oil	3,500	22⅜	23½	21⅞	23	+ ¾
57¾	5¾	32½	18¾	25	Red Bank Oil	500	27	27	25⅛	25⅛	—2⅞
5½	3	9¾	8½	N.P.	Ryan Consolidated	1,300	6	6⅛	5½	5½	— ½
10¾	6	8¾	6¾	10	Salt Creek Cons	1,600	7½	7⅞	7¾	7¼	— ½
27½	19⅛	27¾	24	10	Salt Creek Prod	9,800	26	26⅞	25⅜	26½	+ ½
2½	.80	2	1	5	Sapulpa Refining	.....	.....	.....	.....	.....	.....
16¼	6¾	18¾	9¾	10	Tidal Osage	200	9½	9½	9½	9½	.....
4¼	2¼	4¾	3¼	5	Venezuelan Pet	12,900	4⅜	4¾	4½	4⅜	0
8½	4¼	7¾	5¾	5	Wilcox Oil & Gas	7,500	6	6	5¾	6	+ ⅛
18⅛	4¾	7	3¾	N.P.	Woodley Petroleum	100	4¾	4¾	4¾	4¾	— ⅛

Pittsburgh Stock Exchange

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended May 8 Sales	First	High	Low	Last	Ch'ge
7	4	8¼	5¼	$10	Arkansas Nat. Gas	3,478	6⅜	6½	6	6¼	— ⅛
40½	35¾	.....	.....	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
.....	.....	108	108¾	$100	Duquesne Lt.7s pfd.	83	100	*108	108	108	0
30	30	.....	.....	25	Fayette County Gas	.....	.....	.....	.....	.....	.....
33½	26¾	40	32¼	25	Lone Star Gas	1,290	39⅛	39¼	38½	38¾	— ⅜
33¼	28⅜	34⅜	31	25	Ohio Fuel Corp	4,297	32¼	32¼	31½	32	— ¼
16½	11¾	16¾	12¼	1	Ohio Fuel Oil	100	12¾	12¾	†12¼	12¼	0
28½	22¾	31½	26	25	Oklahoma Nat. Gas	365	29¾	29⅞	29½	29½	— ¼
9¾	6	8¾	6¼	5	Pittsburgh O. & G.	585	6¼	6¼	6¼	6¼	0
10½	6	8¾	6¾	10	Salt Creek Cons	2,111	7¾	7⅞	7¼	7¼	— ½
16¾	8	13¾	8¾	10	Tidal Osage	360	9¼	10	9½	10	+ ½
92	92	.....	.....	100	do pfd	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1924 High	1924 Low	1925 High	1925 Low	Par Value	Stocks	Transactions Week Ended May 8 Sales	First	High	Low	Last	Ch'ge
2½	2⅛	.....	.....	N.P.	Arkansas Fuel	.....	.....	.....	.....	.....	.....
1	.20	1⅛	.60	$5	Colombia Synd	.....	.....	.....	.....	.....	.....
.70	.25	.60	.15	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9½	5⅛	9	7	10	Forest Oil	.....	.....	.....	.....	.....	.....
66¾	57	70	64	25	Gulf Oil Corp	.....	.....	.....	.....	.....	.....
23¾	21	.....	.....	N.P.	International Pet	.....	.....	.....	.....	.....	.....
4½	4⅛	.....	.....	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
6	5	.....	.....	$10	Marshall Oil	.....	.....	.....	.....	.....	.....
2¾	1⅜	2¾	1¾	1	Oklahoma Eastern	7,938	1½	1¾	1½	1½	— ⅛
.....	.....	¾	⅜	....	do rights	.....	.....	.....	.....	.....	.....
.77	.35	.40	.35	10	Omar O. & G	6,000	.45	.45	.40	.40	+ .05
8	3½	7	3	5	States Oil	25	3½	3½	3½	3½	.....
14	10	11	9	10	TidalOsagenon-vot'g	.....	.....	.....	.....	.....	.....

*New High †New Low x Ex Dividend

Sinclair Pipe Line Nets $8.91 a Share

NEW YORK, May 9.—Sinclair Pipe Line Co. in 1924 netted $2,503,319 equivalent to $8.91 a share on the 4100 stock. The company is owned jointly by the Sinclair Consolidated Oil Corp. and the Standard Oil Co. of Indiana. The 1924 income account follows:

Operating revenue	$14,017,661
Expenses, etc.	5,731,858
Operating income	$8,285,803
Other income	106,683
Total income	$8,392,486
Depreciation	4,608,624
Interest, taxes, etc.	1,280,543
Net income	$2,503,319

The balance sheet as of Dec. 31 follows:

Assets

Plant	$75,657,588
Bond discounts, expenses	1,819,625
Insurance fund	382,529
Sinking fund	82,838
Deferred charges	264,696
Cash	1,473,177
Accounts receivable	1,377,266
Inventories	3,249,012
Total	$84,306,733

Liabilities

Capital stock	$28,084,400
Funded debt	24,495,000
Depreciation, amortization	17,162,155
Insurance reserve	382,529
Other reserves	293,040
Notes payable	5,500,000
Accounts payable	597,646
Accrued interest, taxes, etc	1,113,148
Surplus	6,678,815
Total	$84,306,733

The balance sheet of the Sinclair Crude Oil Purchasing Co., also owned jointly by the Sinclair Consolidated and the Standard of Indiana, on Dec. 31, 1924, showed a deficit. The sheet follows:

Assets

Plant	$16,292,386
Cash	1,700,223
Accounts receivable	9,315,009
Inventories	90,744,822
Deferred charges	404,657
Total	$118,457,097

Liabilities

Capital stock	$60,000,000
Funded debt	50,000,000
Deprecia., insurance res.	5,210,770
Unadjusted credits	273,673
Notes payable	3,000
Accounts payable	2,049,662
Accrued interest	1,495,337
Deficit	575,345
Total	$118,457,097

Phillips Petroleum Income Greater

BARTLESVILLE, OKLA., May 9.—Operating income of the Phillips Petroleum Co. for the first quarter of 1925 is 18.8 per cent greater than in the first quarter of 1924. Consolidated accounts for the two quarters follow:

	1925	1924
Gross	$7,220,060	$5,655,087
Expenses and taxes	2,853,659	1,982,441
Net before depl. and depr.	$4,366,401	$3,672,646

Stockholders of the company have approved the increase in the capital stock from 2,000,000 to 2,500,000 shares of no par value. It is said that none of this stock will be issued in the near future because there is no program of expansion under way but the authorization was merely a precautionary measure for the future.

The Oil Industry Exchange

Positions Wanted

Experienced Refinery Executive desires new connection. References. Box 360.

14 years' experience in refinery operations, desires position as superintendent or assistant. Familiar with cracking stills and modern methods. Box 366.

Executive—Office Manager—Accountant, has had ten years successful experience in all phases of oil industry, handled accounting, purchasing, office systematizing, credits, collections and correspondence. Can supervise a large force. Will go anywhere. Address Box 363, care National Petroleum News.

Experienced refiner wishes position. Experience covers pressure stills, treating laboratory, loading, etc. References. Box 367.

Refinery Superintendent desires change in position. Fifteen years' experience. Acquainted with modern refining equipment, cracking, lub and skimming plants. A-1 references. Box 362.

General Office Man, now in charge and doing all work on books of jobbing and retail business consisting of four bulk and seven service stations. Volume, one and one half million gasoline gallonage annually. Young man of energy and judgment. Reason for leaving; company selling out. At liberty June 1st. Box 368.

Situations Open

Salesmen

See our ad on page 188 of this issue. If you call on Jobbers and Service Stations, you will be interested in our proposition.

Marengo Specialty Mfg. Co.
Marengo, Ill.

Expert Accountant Wanted with auditing experience, familiar with manufacturing refinery accounting and cost determinations, particularly where "cracking" units are operated. Must be willing to travel. Apply stating age, education, experience, salary expected and references. Box 350.

Salesman Wanted

Experienced wholesale gasoline and lubricating oil salesman to cover Pennsylvania, Maryland, Virginia, West Virginia and North Carolina.

Give full particulars past experience which will be held strictly confidential.

Box 356

Oil Man Wanted

Large Oil Corporation operating in Atlantic Coast States has excellent opening for experienced oil salesman as office assistant. Must be good correspondent, capable of following and developing sales work, and thoroughly familiar with the handling of outside branches and routine work in connection therewith.

In reply give full history of present and past connections, state experience fully, and enclose references.

Box 364, National Petroleum News

For Sale

Two Henry Vogt Machine Co.'s 20-ton Exhaust Steam Absorption Refrigerating Systems, for sale, complete. In first-class condition. Box 272.

Well established Oil Jobbing Business located in Eastern Minnesota, 200,000 gallons yearly and more this year. No competition to speak of. Will bear strictest investigation. Must have $15,000 cash. Box 365.

Iron Tanks For Sale

Will hold carload capacity. Good condition. Will stand inspection. Priced low for quick sale due to plant dismantlement. Address Fort Wayne Corrugated Paper Company, Fort Wayne, Ind.

Three 10-barrel steam heated kettles for sale, equipped with mechanical agitators. Box 369.

For Lease

Tank Cars For Lease

1 to 35 8000 gal. capacity, 6 or 12 months. For clean service. Also some insulated cars.

Box 321

Business Opportunities

Wanted—Oil Jobbers, Pump Salesmen and Specialty Salesmen calling on Filling Stations, to take on a side line of dependable Welded, and Riveted and Welded Storage Tanks, on a commission basis.

Box 351

MAKE THIS OFFICE TULSA HEADQUARTERS

Will buy petroleum products for your account. Small commission.

Wire or Write for Details

DALE W. MOORE

532-533 Mayo Bldg., Tulsa, Okla.
Telephones: 3-4177 and 3-4178.
L. D. 136

WHAT IT COSTS

For "Position Wanted" advertisements—5 cents per word. Minimum cost $1.00. All other classified advertising—10 cents per word. Minimum cost $3.00. Advertisements set in special type or with border—$4.00 per column inch. Copy must reach us not later than Friday preceding date of issue. All advertisements carried on this page are payable in advance.

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